

**DESIGNING JUSTICE:
SEXUAL VIOLENCE, TECHNOLOGY,
AND CITIZEN-ACTIVISM**

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AND CITIZEN-ACTIVISM**

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Table of Contents

ACKNOWLEDGEMENTS.....	III
LIST OF TABLES	VI
LIST OF FIGURES.....	VII
ABBREVIATIONS.....	VIII
 CHAPTER 1 INTRODUCTION:	1
SEXUAL VIOLENCE, MOBILIZED PUBLICS, AND TECHNOLOGY	11
CITIZEN AS CONTESTED TERRAIN	17
WHY EXAMINE ANTI-SEXUAL VIOLENCE TECHNOLOGY?	21
THE CONTRIBUTIONS OF A HYBRID FEMINIST SCIENCE AND TECHNOLOGY STUDIES APPROACH	22
EXISTING FEMINIST STS APPROACHES TO SEXUAL VIOLENCE, TECHNOLOGY, AND THE LAW	23
FOCUS AND METHOD.....	31
SITES OF ANALYSIS: TECHNOLOGY BEFORE AND AFTER SEXUAL VIOLENCE	33
 CHAPTER 2 THE SOCIOTECHNICAL IMAGINARY OF ANTI-RAPE TECHNOLOGY	39
THE “NIRBHAYA” ASSAULT AND GLOBAL FRUSTRATION WITH GOVERNANCE FEMINISM	39
THE EMERGING MOBILIZATIONS OF RAPE PREVENTION PRODUCTS.....	44
FEMINIST CRITIQUES OF ANTI-RAPE TECHNOLOGY: RAPE MYTHS AND “CUTE” RAPE PREVENTION	52
SOCIOTECHNICAL IMAGINARIES AND THE CO-PRODUCTION OF SOCIAL ORDER.....	55
IDENTIFYING POPULAR ANTI-RAPE PRODUCTS: NOTES ON DATA AND METHOD.....	59
NARRATING A VISION OF TECHNOLOGY IN A RAPE FREE FUTURE	65
CONCLUSION: THE SOCIOTECHNICAL IMAGINARY AS AN INSTRUMENT OF LEGITIMATION	80
 CHAPTER 3 KNOWING-MAKING RAPE REPORTING PLATFORMS.....	86
WHITENESS: RACE-ING THE INJUSTICES OF THE REPORTING EXPERIENCE	91
MOBILIZING IN/EQUALITY: DIGITAL PLATFORMS AS RACIALIZED INFORMATION INFRASTRUCTURE.....	96
THE AFFORDANCES OF REPORTING PLATFORMS: WHITENESS DISCOURSES OF EMPOWERMENT, EVIDENCE, AND NEUTRALITY	101
CODING INTERSECTIONALITY: RETHINKING THE DESIGN PROCESS WITH VALUE-HYPOTHESES.....	108
ENGAGING INTERSECTIONAL VALUE-HYPOTHESES TO CRAFT LIBERATED RESPONSES TO SEXUAL VIOLENCE	112
CONCLUSION: TOWARD INTERSECTIONAL INFORMATION INFRASTRUCTURES	119

CHAPTER 4 MENDING THE SEXUAL ASSAULT KIT: ORDERING EVIDENCE AND RESPONSIBILIZING SURVIVORS	124
THE FORENSIC GAZE: METHODS AND PRACTICES OF OBSERVATION.....	128
IRRESPONSIBILIZATION, THE (DIS)ORDERING OF EVIDENCE, AND THE COPRODUCTION OF INEQUALITY.....	132
COUNTERING IRRESPONSIBILIZATION WITH ALTERNATIVE EVIDENCE PRODUCTION AGENDAS	138
CHALLENGING THE COST BARRIER TO TESTING.....	139
PRESERVING THE RIGHT TO RETAIN A KIT	140
TRACKING KITS WITH RFID TECHNOLOGY	143
THE CONSEQUENCES OF UNDONE FORENSIC SCIENCE	144
THE LIMITS OF RE-ORDERING: COMMITMENT TO THE POWER RELATIONS OF THE SAK	145
CONCLUSION: TESTING KITS IS AN ACT OF RESISTANCE, BUT TECHNOSCIENCE WILL NOT SAVE US.....	152
 CHAPTER 5 ELECTRONIC MONITORS AND THE POLITICS OF MEANING: PUNISHING SEXUAL SUBJECTIVITIES	155
THE PECULIAR PUNISHMENT OF SEX OFFENDERS.....	155
THE ADVENT OF ELECTRONIC MONITORING AND SHORT-LIVED IMAGINARY OF BEHAVIORAL CHANGE	160
THE BEHAVIOR TRANSMITTER-REINFORCER, STREET-CORNER RESEARCH, AND MODERN PENOLOGY.....	164
THE PUNITIVE TURN AND THE NEW MATERIAL-DISCURSIVE DEMAND FOR ELECTRONIC MONITORING	169
UNDER THE NEW PENOLOGY, THE ELECTRONIC MONITOR ENTERS THE CRIMINAL JUSTICE SYSTEM	175
WHITE HETERONORMATIVITY AND THE HUMAN-MACHINE CONSTRUCTION OF ACCOUNTABILITY.....	181
CONCLUSION: SEXUAL SUBJECTIVITIES AND RACIALIZED STATES OF EXCEPTION	186
 CHAPTER 6 FROM A LEGAL TO A TECHNO-LEGAL RESPONSE TO VIOLENCE	193
 BIBLIOGRAPHY.....	203

List of Tables

Table 2.1	Second-wave anti-rape technologies and inventor backgrounds	62
Table 2.2	Second-wave anti-rape company backgrounds and business analysis	63
Table 3.1	Potential value-hypotheses and questions of action in race-conscious anti-violence reporting technology	121

List of Figures

Figure 2.1	Available quarterly revenue earnings for anti-rape technology companies	64
Figure 4.1	The PRESERVEkit™	148
Figure 4.2	The MeToo Kit	148
Figure 5.1	U.S. prison population, 1925-1985	169
Figure 5.2	U.S. corrections and community supervision population, 1970-2015	173
Figure 5.3	U.S. male prison population by race per 100,000 in population, 1990-2015	174
Figure 5.4	U.S. women prison population by race per 100,000 in population, 1990-2015	174
Figure 5.5	Estimated number of sex offenders in custody of state correctional authorities by most serious sexual offense, 1970-2015	175
Figure 5.6	U.S. adults under state or federal community supervision, 1980-2015	180
Figure 5.7	Use of radio-frequency and GPS tracking products in the U.S.	181

Abbreviations

AI	Artificial Intelligence
CAPS	Curbing Assault to Protect Society
CCVA	Citizens' Committee for Victim's Assistance
CDC	The Centers for Disease Control
CODIS	Combined DNA Index System
DNA	Deoxyribonucleic Acid
GPS	The Global Positioning System
HHC	Health and Hospitals Corporation
LGBTQ	Lesbian, Gay, Bisexual, Transgender, and Queer
MIT	Massachusetts Institute of Technology
NCVS	National Crime Victimization Survey
NICCSA	National Indian Country Clearinghouse on Sexual Assault
NPR	National Public Radio
PTU	Personal Tracking Unit
RAINN	Rape, Abuse, and Incest National Network
RFID	Radio-Frequency Identification
SAK	Sexual Assault Kit
SHE	Society Harnessing Equipment
STS	Science and Technology Studies
TGNC	Trans, Gender Non-Conforming
VAWA	Violence Against Women Act

Introduction

Citizen-Activists, Victim Advocacy, and Anti-Sexual Violence Technology in the U.S.

In 1973, a Chicago activist named Marty Goddard incorporated a small nonprofit organization named the Citizens' Committee for Victim Assistance (CCVA) to produce a technology that would have a profound impact on the criminal justice system for decades to come: the Vitullo™ Kit. The technology was the first sexual assault exam kit in the United States; and was named for Sergeant Louis R. Vitullo, who partnered with Goddard and worked in the Chicago Crime Lab as a forensic analyst. Goddard's choice to collaborate with the criminal justice system was controversial among other feminists, many of whom rejected her approach.¹ However, Goddard believed that the most effective victim advocacy effort was to engage with and attempt to reform the institution that directly revictimized survivors of sexual violence. At the heart of the CCVA's reform project was the belief the Vitullo Kit would bring order to the then chaotic evidence collection process, and that forensic science done correctly would empower survivors by

¹ For a more detailed history that traces the development of the Vitullo Kit, see Renee Shelby, "Whose Rape Kit? Stabilizing the Vitullo Kit Through Positivist Criminology and Protocol Feminism, *Theoretical Criminology*, 2018: 10.1177/1362480618819805.

producing irrefutable evidence that could back survivors' claims of assault.

Over the next several years, the CCVA worked closely with law enforcement, prosecutors, and policymakers to develop, test, and refine the Vitullo Kit and its protocols. To help institutionalize the kit as a standard medico-legal practice, the CCVA led extensive in-person trainings about the effects of trauma on survivor behavior, the value of forensic evidence in court, and the way to properly administer the sexual assault exam. These CCVA training seminars were offered to over 6,000 medical and law enforcement personnel throughout Illinois. By 1983, Goddard was able to professionalize manufacturing and outsource production to Becton Dickinson, a medical technology company, freeing her organization to retrain hospital staff, spend time iteratively refining the sexual assault exam kit protocols, and engage in local policy advocacy. The CCVA's efforts were effective in popularizing the kit in the legal system, and by 1987, jurisdictions not only in Illinois but across the United States had adopted the kit, marking a historic shift in how technology was employed to report, investigate, and prosecute sexual violence. Because the CCVA believed they had accomplished their goal of institutionalizing the sexual assault exam kit, Goddard and her team moved on to other advocacy ventures. The Vitullo Kit trademark lapsed in 1988, and other medical and forensic supply companies, including Sirchie Fingerprint Laboratories and Tri-Tech Forensics, began producing generic versions of sexual assault exam kits.

By demanding and standardizing new victim care and evidence collection practices through the Vitullo Kit, the CCVA strived to design medico-legal justice for survivors at the moment they sought medical care. At the time, hospital staff were notoriously uninformed about how to properly collect evidence and were often insensitive or callous about the special needs of survivors. Among their other compassionless practices, medical staff often sent survivors home

nearly naked, wearing nothing but hospital gowns, or “outed” survivors to journalists, rendering them vulnerable to other forms of victimization.² While Goddard brought a dose of skepticism to her work with the criminal justice system, understanding that it was not, in her words, the “victim’s justice system,” she nonetheless believed that institutional change would not happen without “one foot in the door.”³

While the CCVA’s Vitullo Kit was novel, Goddard’s approach was not. Her strategy of *designing justice* by using technological intervention to address problems in how the legal system handled sexual violence⁴ knitted together the traditions of the mainstream feminist movement (1960s–1970s) with an emerging form of technological activism.⁵ Quite palpably, the CCVA’s endeavor is an exemplar of the dominant focus of the predominately white, mainstream feminist movement, whose goal was to challenge the treatment of sexual violence victim-survivors⁶ in the justice system and craft systems of support for women’s lack of socio-legal

² Shelby, “Whose Rape Kit?”

³ Anne Seymour, Interview with Marty Goddard, 2003.

⁴ According to Planty and her colleague’s analysis of the National Crime Victimization Survey, between 2005 and 2010, on average, there were about 270,000 sexual assaults against women each year, or 1.8 victimizations per 1,000 women. Women aged 34 or younger living in lower-income or rural households experience the highest rates of sexual violence (4 victimizations per 1,000 women). While I often use the term “women” to refer to those who are vulnerable to sexual violence, I recognize the gendered character of sexual assault—in which perpetrators are primarily cis men—and victims of abuse are primarily trans and cis women, but also trans and cis men. In my discussions about the anti-violence movement, I primarily use the language of the time, which focused on cis women as victims. In using this language, I do not intend to erase the experiences of trans women and cis men who experience violence. Similarly, when analyzing contemporary technologies used to respond to sexual violence, I also often use “women,” following the language used by contemporary anti-sexual violence technology companies and inventors.

⁵ In the late 1960s and early 1970s, inventors also began patenting rape prevention technologies. See: Renee Shelby, “Techno-Physical Feminism: Anti-Rape Technology, Gender, and Corporeal Surveillance,” *Feminist Media Studies* (2019): 1-22.

⁶ Throughout this dissertation I use the term “victim-survivor.” The term “victim” is common in legal settings, while the term “survivor” is common in advocacy settings. In other instances, the term “victim” can be deployed to refer to someone who has recently experienced sexual violence, while the term “survivor” describes a person who has begun to heal from the experience. Some people who have experienced sexual violence feel more comfortable with the term “victim,” while others feel more comfortable with the term “survivor.” I use the term “victim-survivor” in recognition of these linguistic politics and to be inclusive.

power and status.⁷ However, this was not the first time women publicly mobilized on the issue of sexual violence.

The early history of the anti-rape movement is the history of Black women's struggle for agency over their bodies and with the complex intersections of racism and sexism. Lucy and Frances Smith, the two Black women who testified in front of Congress about how white police officers gang-raped them during the Memphis Riot of 1866, were among the first women to break the silence.⁸ In 1944, Recy Taylor publicly spoke out about against the mob of white men who raped her, leading Rosa Parks to form the "Committee for Equal Justice for Recy Taylor" drawing national attention to the case.⁹ Throughout the twentieth century, Black women have spoken out about white supremacist sexual violence, and framed rape as a social problem driven by both racism and sexism. They did so by engaging in consciousness-raising to generate solidarity and to encourage people to think critically about women's oppression.¹⁰ In the 1960s, white women's liberation activists and collectives increasingly started to sponsor speak-outs, hosted forums, and distributed literature correcting myths about sexual violence, in a desperate effort to shift blame to where it belonged: with perpetrators, not victims.

It was at one such forum, where women were lamenting law enforcement's poor treatment of survivors, that Goddard came up with the idea to directly to interview police about

⁷ See Maria Bevacqua, *Rape on the Public Agenda* (Boston: Northeastern University Press, 2000) and Emily Thuma, *All Our Trials: Prisons, Policing, and the Feminist Fight to End Violence* (Chicago: University of Illinois Press, 2019).

⁸ Hannah Rosén, *Terror in the Heart of Freedom: Citizenship, Sexual Violence, and the Meaning of Race in the Postemancipation South*. (Chapel Hill, NC: University of North Carolina Press, 2009).

⁹ Danielle McGuire, *At the Dark End of the Street: Black Women, Rape, and Resistance—A New History of the Civil Rights Movement from Rosa Parks to the Rise of Black Power* (New York: Vintage, 2010).

¹⁰ See, for example, Crystal Feimster, *Southern Horrors: Women and the Politics of Rape and Lynching* (Cambridge: Harvard University Press, 2011); McGuire, *At the Dark End of the Street*; Rosalind Rosenberg, *Jane Crow: The Life of Pauli Murray* (New York: Oxford University Press, 2017); and Barbara Smith *Turn Me Around: Forty Years of Movement Building with Barbara Smith* (New York: SUNY Press, 2014)

how they investigated sexual violence cases.¹¹ Although many other women in her circle deemed it repellant to work with the “pigs,” Goddard and her friend Dr. Cynthia Porter-Gehrie, an ethnographer and professor at the University of Illinois, nonetheless engaged in a statewide campaign to call police stations and identify what prevented police from investigating and prosecuting assault cases.¹² Perhaps even more surprising than their tactic was the disclosure that police were readily willing to reveal to them—that law enforcement viewed the lack of usable evidence as the reason rape cases were not pursued. This disclosure is what ultimately led Goddard to develop the Vitullo Kit.¹³ Goddard’s bottom-up strategy was characteristic of the mainstream feminist activism that led to numerous “firsts” in bureaucratized victim advocacy. As women’s liberation advocate Sandra Butler, who authored the widely read 1978 *Conspiracy of Silence: The Trauma of Incest*, said in a 1996 speech to the National Coalition Against Sexual Assault:

We saw what we needed and made it up. It was that simple. Nobody knew how to create a rape crisis center. Negotiate a modified collective. Develop crisis intervention for abused adolescents. Create ongoing support groups for adult women. Engage the criminal justice system as allies in the effort to help women in seeking justice in traditional institutions. No one had yet learned how to create a protocol for examining a sexually abused child. No one. We were it. We just kept putting one foot in front of the other, making it up as we went along.¹⁴

Through such practices of institutional engagement, mainstream feminist advocates catalyzed a previously unprecedented scale of public attention around sexual violence and other issues. However, Goddard’s invocation of “citizens’ committee” points toward the much longer tradition of active community-based governance and grassroots engagement on local issues,

¹¹ The CCVA archives are held at the University of Illinois at Chicago. Based on my analyses of these archives, which primarily document interactions with local hospitals and medical staff, law enforcement, and policymakers, it is unclear to what extent, if at all, the CCVA was allied with Black feminist organizing.

¹² Shelby, “Whose Rape Kit?”

¹³ Ibid.

¹⁴ Sandra Butler, “Looking Back, Moving Forward: A Celebration.” Speech to the National Coalition Against Sexual Assault Conference, San Francisco, CA. (1996, November).

much of which originated in the struggles of Black and poor people.

As used here, a *citizens' committee* is a nongovernmental collective that mobilizes on behalf of particular social issues. One of the most prominent examples of citizen committee organization in the United States occurred in 1890, when the Comité des Citoyens (Committee of Citizens), whose membership included shoemaker Homer Plessy, challenged Louisiana's Separate Car Act. Although the subsequent *Plessy v. Ferguson* Supreme Court decision to uphold "separate but equal" was both repellant and consequential, legal scholars argue that the Committee's efforts should be best remembered as part of the well-established tradition of anti-caste activism and a call for *public rights*—absolute rights that belong to all and that ensure equal dignity in the public sphere.¹⁵ While the mobilization of the Comité des Citoyens and the subsequent action of African American club women, as well as the broader civil rights movement, would today be characterized as activism, the term *activism*—reflecting notions and efforts of social resistance, advocacy, or protest—did not enter the popular lexicon until the mid-1970s.¹⁶

From a sociological perspective, the notion of activism draws attention to the tensions between the "agency" of *mobilized publics*—or people who mobilize for social change—and the "structure" of the collective public sphere.¹⁷ As a concept, it refers to how societies are "made" or changed.¹⁸ Activism can take the form of *direct action* or what Alexander Kluge describes as

¹⁵ See Rebecca Scott, "Public Rights, Social Equality, and the Conceptual Roots of the Plessy Challenge," *Michigan Law Review*, no. 106 (2007): 777-805.

¹⁶ Joseph M. Kling and Sarah Prudence Posner, eds. *Dilemmas of Activism: Class, Community, and the Politics of Local Mobilization* (Philadelphia: Temple University Press, 1990); Sidney Tarrow, "Studying Contentious Politics: From Eventful History to Cycles of Collective Action," in *Acts of Dissent: New Developments in the Study of Protest* (Lanham, MD: Rowman & Littlefield, 1998), 33-64.

¹⁷ Steven Epstein, *Impure Science: AIDS, Activism, and the Politics of Knowledge* (University of California Press, 1996).

¹⁸ The nature of much activism can be characterized as (or self-identifies as) progressive. However, not all activism can fit neatly on a linear left-to-right political axis.

“immediate on-the-spot struggle” such as protests, demonstrations, strikes, sit-ins, or consumer boycotts to create an oppositional public sphere, which has been central to every historic struggle for new rights.¹⁹ Alternatively, and as in the case of Marty Goddard and the CCVA, activism may be less direct action driven, operating instead within the dominant political and judicial system to influence governments toward implementing alternative knowledge and technological systems. Regardless of approach, activism is about creating future societies, and in the words of activism scholar Tim Jordan, “From activism may come new definitions of the good life and society.”²⁰ For women’s health and sexual violence specifically, scholars have explored not only how the discursive content of activist projects constructs definitions of “the good life,” but also how the material practices or protocols of activism are taken up in this service.²¹ These analyses include an examination of how these material practices reveal a technological feminist consciousness that is focused on the movement of information through analog information systems²² and digital social networks.²³

In this so-called Information Age or Digital Age, information and communication technologies have become central aspects of social and political development²⁴ and have brought shifts in how we conceptualize and understand power.²⁵ Computers and the Internet have shifted the landscape of access to and control over symbols, norms, and public narratives and counter-

¹⁹ Alexander Kluge, “On Film and the Public Sphere, *New German Critique*, no. 24/25 (1981): 212.

²⁰ Tim Jordan, *Activism! Direct Action, Hacktivism, and the Future of Society* (London: Reaktion Books, 2004), 9.

²¹ Michelle Murphy, *Seizing the Means of Production: Entanglements of Feminism, Health, and Technoscience* (Durham, NC: Duke University Press, 2012); Carrie Rentschler and Samantha Thrift, “Doing feminism in the network: Networked laughter and the ‘Binders Full of Women’ Meme,” *Feminist Theory* 16, no. 3 (2015): 329-359.

²² Shelby, “Whose Rape Kit?”

²³ Michael Salter, “Justice and Revenge in Online Counter-Publics: Emerging Responses to Sexual Violence in the Age of Social Media,” *Crime, Media, Culture* 9, no. 3 (2013): 225-242; Anastasia Powell, “Seeking Rape Justice: Formal and Informal Responses to Sexual Violence Through Technosocial Counter-Publics,” *Theoretical Criminology* 19, no. 4 (2015): 571-588.

²⁴ Manuel Castells, *The Rise of the Network Society*, Society and Culture (Oxford: Blackwell, 1996).

²⁵ Joseph Nye, *The Future of Power*, Speech at Chatham House, May 11, 2011.

narratives. Science and Technology Studies (STS) scholarship provides useful conceptual tools for rethinking the relationships between technology, social change, and mobilized publics, and for exploring the socio-material dimensions of technological activism through a sociological agency/structure lens.²⁶ In the landmark *Fissures in the Media Landscape*, Clemencia Rodríguez²⁷ describes *citizens' media* as the technological spaces that allow people to enact their democratic agency beyond traditional means such as voting, and says that these “practices and strategies of resistance constitute the politics of the quotidian.”²⁸ She draws on Chantal Mouffe’s radical democratic conceptualization of citizenship: “not as a legal status but as a form of identification, a type of political identity: something to be constructed, not empirically given.”²⁹ Through this lens, citizenship is not reduced to a liberal model of rights-bearing subjects. Rather, citizenship is characterized by an *active* nature that is related to empowerment, whereby as citizens—as mobilized publics—actively participate in activities that reshape their own identities, the identities of others, and their social environments, they produce power. As individuals have multiple identities (including, but not limited to, gender, race, social class, sexuality, and disability) that afford them differential power across social settings, Mouffe’s articulation of the citizen is focused on finding equivalence among collective struggles, without essentializing identity or eschewing difference. Within Mouffe’s framing, since forms of oppression and disenfranchisement are multifaceted and span the material-discursive, she argues

²⁶ David Hess, “Technology- and Product-Oriented Movements: Approximating Social Movement Studies and Science and Technology Studies.” *Science, Technology, & Human Values* 30, no. 4 (2005): 515-535; Stefania Milan and Miren Gutiérrez, “Citizens’ Media Meets Big Data: The Emergence of Data Activism,” *Mediaciones* 11, no. 14 (2015): 120-133.

²⁷ Rodríguez also founded OURMedia/NUESTROSMedios in 2000, “an emerging global network with the goal of facilitating a long-term dialogue between academics, activists, practitioners and policy experts around citizens’ media initiatives.” See: Our Media, “About Us.”

²⁸ Clemencia Rodríguez, *Fissures in the Mediascape: An International Study of Citizens' Media* (Hampton, NJ: Hampton Press, 2001), 21.

²⁹ Chantal Mouffe, “Introduction,” *Dimensions of Radical Democracy: Pluralism, Citizenship, Community* (Brooklyn, NY: Verso, 1992), 19.

that democratic struggles should be understood as processes of change that include both material and discursive practices of dissent.³⁰

Drawing on this radical democratic perspective, Rodríguez describes technology as constructing material space for political action in spheres beyond those that, in the United States, constitute traditionally white and patriarchal institutional spaces (e.g., voting), to those spaces embedded within everyday social life and interaction.³¹ She argues that by actively participating in the creation of technologies and using them to reshape identities, challenge social norms and meanings, and legitimize other ways of knowing and relating on the personal and collective level, people are enacting or practicing their citizenship. Specifically, Rodríguez suggests that *citizens' media* implies the following about the material and discursive relationships between people, technology, and culture:

[First,] that a collectivity is enacting its citizenship by actively intervening and transforming the established mediascape; second, that these media are contesting social codes, legitimized identities, and institutionalized social relations; and third, that these communication practices are empowering the community involved, to the point where these transformation and changes are possible.³²

Other scholars have analyzed the material and discursive aspects of activism and technology using this notion of *citizen media*.³³ In *Social Movements and their Technologies*, Stefania Milan³⁴ explores the interactions between social movements and what she terms their “liberated technologies,” uncovering how radical citizen groups change the ways through which

³⁰ Ibid.

³¹ Rodríguez, *Fissures in the Mediascape*.

³² Ibid, 20.

³³ Although much existing scholarly literature on technology and activism focuses on new media, Stefania Milan and Claudia Padovani (2014) trace how activists in Latin America, South Asia, Iran, and the United States have appropriated and repurposed communications technology for creative “self-expression” and “social change” since at least the 1950s. Similarly, Christina Dunbar-Hester (2014) traces how media reform activists combine technological engagement with policy advocacy to confront elite expertise through low-power FM radio.

³⁴ Milan is also a central contributor to DATACTIVE, which is a research project and a research collective exploring the politics of big data broadly defined. DATACTIVE especially focuses on big data from the South. (<https://data-activism.net>).

people communicate in everyday life by creating technological alternatives to conventional communications systems.³⁵ Milan describes how activists use technology as a means to a political end, and methodologically, argues that to understand the relationships between activists and technology, one has to identify the “action repertoires” of collective actors. In alignment with this approach, David Hess calls for analyses that explore how mobilized publics use science and technology to produce “contentious knowledge” as an action repertoire,³⁶ and Hector Postigo examines how digital rights activists engage in such contentious knowledge production to refigure copyright law.³⁷ Postigo traces the existing policy gaps that produced copyright laws at odds with existing and emerging consumer practices, and traces case studies of technological resistance, describing a host of tactics that range from computer hacking to lobbying.

In terms of sexual violence specifically, scholars have analyzed the material and discursive practices of citizens’ media in contemporary anti-violence movements. As seen with the recent and highly visible #MeToo movement,³⁸ the technological feminist consciousness has turned toward networked information and communication technologies to help build solidarity across spaces and social groups. In looking at both the material and discursive aspects of technological activism, feminist scholar Carrie Rentschler created a “media history of student activism” around #MeToo that traced not only activists’ narrative reframing of sexual violence but also methods by which activists *do* activism in the forms of “mobilizing documentation,

³⁵ Stefania Milan, *Social Movements and Their Technologies: Wiring Social Change* (New York, Springer, 2013).

³⁶ David Hess, *Undone Science: Social Movements, Mobilized Publics, and Industrial Transitions* (Cambridge, MA: MIT Press, 2016).

³⁷ Hector Postigo, *The Digital Rights Movement: The Role of Technology in Subverting Digital Copyright* (Boston: MIT Press, 2012).

³⁸ On October 24, 2017, the #MeToo began trending after actress Alyssa Milano used it as a Twitter hashtag in response to sexual assault allegations against Hollywood producer Harvey Weinstein—although the phrase was created by African American women’s rights activist Tarana Burke in 2006.

communication strategies, and use of communication technology.”³⁹

As technology is increasingly embedded in our experiences of the social world, it has increasingly been adopted by social movements to mobilize contentious knowledge and practices. By examining the varied methods through which anti-violence movements use technology, socio-legal studies scholar Anastasia Powell argues that public engagement with citizens’ media by and on behalf of victim-survivors constitutes more than resistive politics; it also serves to develop new technosocial practices of informal justice.⁴⁰ In other words, resistance technologies are not mere tools, but on-the-ground mediators of justice. In this dissertation I draw on and expand this literature by examining the multiple ways publics mobilize technology to address the injustices of sexual violence, as well as how these resistance technologies produce power that is intersectionally gendered and racialized.

Sexual Violence, Mobilized Publics, and Anti-Sexual Violence Technology

Since the nascent technological advocacy of the CCVA’s Vitullo Kit, there has been an explosion of citizen-activism in the United States that similarly engages the criminal justice system, culminating in expansive networks of law enforcement professionals, institutional stakeholders, and victim advocates that enthusiastically utilize technology as a helpful means to prevent, report, investigate, and punish sexual violence. Indeed, there has been no shortage of victim-survivor, advocate, and even state efforts to redesign the criminal justice system through technological interventions that promise to maximize individual and institutional capabilities to

³⁹ Carrie Rentschler, “#MeToo and Student Activism Against Sexual Violence,” *Communication Culture & Critique* 11, no. 3 (2018): 504.

⁴⁰ Anastasia Powell, “Seeking Rape Justice.”

prevent violence. For example, in addition to more low-tech “objects,” such as pepper spray, cut-proof protective undergarments, and portable date-rape drug tests intended to empower individual women, there are now thousands of personal anti-rape “smart” panic buttons that geotrack the movements of women, silently contact authorities, and aim to facilitate digital intervention by bystanders to disrupt assaults before or as they happen. There are a growing number of sexual violence and harassment reporting platforms marketed to educational, business, and military institutions as modes to enhance investigation practices and catalyze new mechanisms of accountability. Since the advent of DNA testing in the 1990s, the perceived legal value of the sexual assault exam kit has only been amplified; it and other forensic technologies such as the colposcope—a camera that can magnify physical trauma undetectable to the human eye—have become central and expected aspects of the police investigation process. And to control convicted sex offenders, GPS tracking systems, predictive recidivism algorithms, and hormonal and nonhormonal pharmaceuticals have become commonplace and often legally mandated corrections “solutions.”

Proponents of these *anti-sexual violence technologies*—my umbrella term for the various state, institutional, and personal technologies created to respond to or prevent sexual violence—position these technological interventions as efficient tools to change how the criminal justice system handles rape cases through the perceived authority, reliability, and rigor of science and technology. As I show in this dissertation, regardless of the form and function of the anti-violence technology, the motivation of proponents—many of whom are victim-survivors—is to render the criminal justice system more sensitive and accountable to sexual violence cases and to increase the legal accountability of perpetrators. Unfortunately, the social problem of sexual violence begets no simple technological solution and is so profoundly complex that there can be

no objective, nor singular optimal solution. As decades of feminist scholarship on sexual violence articulates, sexual violence is an aggressive act of social power, and effectively addressing this social problem requires reckoning with the complex and entangled histories of gender, racial, and socioeconomic biases, among others, that shape how we think about victim-survivors, perpetrators, and what constitutes acts of sexual violence.⁴¹ In short, anti-violence technology will likely never live up to its promise as a neat technological solution because a “neat” technological solution to the complex social problem of sexual violence is not possible.

For activists and advocates seeking to create forms of accountability and empower victim-survivors, technology can be a part of but not the entire solution. Because technology is a supporting but not primary mechanism of social change (people are the primary mechanism), what technology can do is create momentum for accelerating desirable and decelerating undesirable social behavior. As scholars who study anti-sexual violence technologies have described, when technological interventions are not coupled with sufficient long-term scaffolding to promote equity within the sociotechnical systems they reside in, technologies will cease to be supportive tools for victim-survivors.⁴²

This is because resistive technologies do not exist in isolation from broader social structures. As STS scholar David Hess describes, the politics of technology-oriented activism can be problematically mediated based on the degree to which activists embrace “private-sector symbiosis,” whereby the emphasis on technological innovation can lead to an articulation of

⁴¹ See, for example, Kimberlé Crenshaw, “Mapping the Margins: Intersectionality, Identity Politics, and Violence Against Women of Color,” *Stanford Law Review*, no. 43 (1990): 1241; Combahee River Collective, *The Combahee River Collective Statement* (1978); bell hooks, *The Will to Change* (New York: Washington Square Press, 2004); Toni Morrison, “Introduction: Friday on the Potomac,” in *Race-ing Justice, En-gendering Power: Essays on Anita Hill, Clarence Thomas, and the Construction of Reality*, ed. Toni Morrison (New York: Pantheon Books, 1993), vii.

⁴² Gethin Rees and Deborah White, “Vindictive but Vulnerable: Paradoxical Representations of Women as Demonstrated in Internet Discourse Surrounding an Anti-Rape Technology,” *Women's Studies International Forum*, vol. 35, no. 6 (2012): 426-431; Shelby, “Whose Rape Kit?”

social movement goals that align with those of investors and entrepreneurs. Hess describes how, over time, more radical technological activism can face “incorporation and transformation” through which established industries absorb the innovative aspects of activist technologies and render them more consistent with existing technologies and the status quo.⁴³ As “incorporation and transformation” inevitably modify technological designs, this process results in political “object conflicts” among various actors from grassroots activists to major industries. In the long term, the form, function, and effects of “ready-made” activist technology may differ greatly from its original values, politics, and design. Hess’s insights, in particular, draw attention to how technological interventions and accountability structures are negotiated within hegemonic and incumbent social structures; as such, he encourages caution in believing too enthusiastically in the transformative power of activists’ technological interventions.

As feminist socio-legal scholars have long argued that we need to decenter the law in our cultural responses to sexual violence,⁴⁴ my analysis shows that while some citizen-activists concur and use resistive technology to address these “governance gaps,” many repertoires of technological resistance focus on enhancing legal processes. However, the transformative outcomes of any resistive technology are further lost, when citizen-activists fail to recognize what Evelyn Higginbotham calls the “metalanguage of race,” in which race as a global signifier shapes discursive understandings and representations of survivors and perpetrators.⁴⁵ To explore this and other social dimensions of anti-violence activism, I trace sociotechnical developments in anti-violence technology and its accompanying practices, since the 1960s, in terms of how technology is framed as an ideal response to sexual violence, perceived failings in the criminal

⁴³ Hess, “Technology-and Product-Oriented Movements,” 516.

⁴⁴ Carol Smart, *Law, Crime and Sexuality: Essays in Feminism* (Thousand Oaks: Sage, 1995).

⁴⁵ Evelyn Higginbotham, “African-American Women's History and the Metalanguage of Race,” *Signs: Journal of Women in Culture and Society* 17, no. 2 (1992): 255

justice system, and its impact on gender and race relations.

This dissertation begins from the feminist STS commitment to contend with “situated knowledges”⁴⁶ and the materiality of racial inequality.⁴⁷ I contribute to this tradition by analyzing the complexities and intersections of anti-violence technology, and by asking, if these technologies are founded on the idea of “justice,”⁴⁸ then justice *for whom*: on whose terms are these technologies mobilized, what interventions do they offer, which rape myths do they challenge, and what forms of “injustice” do they resist. This study also integrates Kimberlé Crenshaw’s analytical framework of *intersectionality*, which identifies how race and racism overdetermines interlocking systems of power and social relations that impact those most marginalized in society.⁴⁹ In doing so, this analysis seeks to show how anti-violence technologies are developed within complex power structures, and that while these resistive objects are often framed as inclusive, without a race conscious attention to design, they work to maintain the centrality of whiteness. As such, the overall goals of the dissertation are to:

1. Apply an intersectional sensibility to document anti-sexual violence technology as a complex, yet dynamic, source of power.
2. Make visible the ways in which anti-sexual violence technology constructs multiple and sometimes competing contentious knowledge about “vulnerability,” “violence,” and

⁴⁶ Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (1988): 575-599.

⁴⁷ See, for example: Ruha Benjamin, *Race After Technology: Abolitionist Tools for the New Jim Code* (Hoboken, NJ: John Wiley & Sons, 2019); Anne Pollock, *Medicating Race: Heart Disease and Durable Preoccupations with Difference* (Durham, NC: Duke University Press, 2012); Dorothy Roberts, “Race, Gender, and Genetic Technologies: A New Reproductive Dystopia?” *Signs* 34, no. 4 (2009): 783-804.

⁴⁸ For more on STS engagement on “justice” concerns, see: Ruha Benjamin, “Informed Refusal: Toward a Justice-Based Bioethics,” *Science, Technology, & Human Values* 41, no. 6 (2016) 967-990; and Laura Mamo, and Jennifer Fishman, “Why Justice? Introduction to the Special Issue on Entanglements of Science, Ethics, and Justice,” *Science, Technology, & Human Values* 38, no. 2 (2013): 159–75.

⁴⁹ Kimberlé Crenshaw, “Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics,” *University of Chicago Legal Forum* (1989): 139.

“justice.”

3. Draw out the fluid relationships among resistive politics, “justice,” and cultural narratives.
4. Reveal how anti-sexual violence technology affects victim-survivors’ access to legal resources in ways stratified by race and class.

I achieve these goals through a robust, qualitative examination of the design, use, and governance of four types of anti-sexual violence technology. In moving through key moments of how we might expect a case to progress through the criminal justice system, I offer an in-depth examination of four widely-circulated yet understudied types of anti-violence technology mobilized during critical moments of the criminal justice process.⁵⁰ These are:

1. The moment of *attack* and commercial rape-prevention products.
2. The *institutional report* and emerging digital rape-reporting web applications marketed to colleges, businesses, and the broader public.
3. The state’s *investigation* and how the legal codes that govern sexual assault exam kits disempower victim-survivors.
4. Paradoxical practices of *punishment*, examining regulated practices of GPS monitoring of sex offenders, through which girls, particularly poor white and girls of color, who “act out” due to experiences of sexual abuse feed into the abuse-to-prison pipeline.

I dedicate a chapter to each of these critical moments in order to show how different types of anti-sexual violence technologies—which are often created by victim-survivors—comprise mobilizing structures that co-produce gendered and racialized contentious knowledge. The data for this project includes archival, narrative, and published scientific sources which

⁵⁰ This approach follows the STS tradition to “trace the circulating reference.” See, for example, Corinna Kruse’s *The Social Life of Forensic Evidence* (2015), or Bruno Latour’s *Pandora’s Hope* (1999).

substantially reference the social processes that have produced these four types of resistive technologies. The analysis of these data reveal how anti-violence technology remains a battleground where citizen-activists and official state actors—as *mobilized publics*—wrestle with and construct multiple definitions of sexual violence and vulnerability; these competing definitions, then, shape the social and legal futures of victim-survivors. In the final chapter, I summarize the analysis to offer a theory for analyzing the material-discursive aspects of anti-violence technology and discuss the contributions of this dissertation to the scholarly literature and to citizen-activism. Before outlining this information in further detail, I briefly discuss the key terms and perspectives that ground this project.

Citizen as Contested Terrain

Within this dissertation, I approach sexual violence as an aggressive act of power that has always been used to dominate and deny one's humanity, and that, within the United States, has been a mode of denying gender and racial equity and citizenship.⁵¹ While the very notion of *citizenship* and who can claim it is a hotly contested category of analysis, there is a sizeable body of interdisciplinary literature that problematizes conceiving of citizenship as merely a status attached to the nation-state.⁵² This literature is complementary to Rodríguez's concept of citizen media described earlier.⁵³ A common theme among these analyses is that citizenship is a practice of "boundary work," in which insiders who enjoy particular benefits and status are differentiated

⁵¹ Hannah Rosén, *Terror in the Heart of Freedom: Citizenship, Sexual Violence, and the Meaning of Race in the Postemancipation South* (Chapel Hill, NC: Univ of North Carolina Press, 2009); McGuire, *At the Dark End of the Street*.

⁵² See Benedict Anderson's *Imagined Communities*; Adriana Petryna's *Biological Citizenship*; Nikolas Rose and Carlos Novas's (2005) *Biological Citizenship*; David Scobey's (2001) *The Specter of Citizenship*; Karen-Sue Taussig's (2009) *Ordinary Genomes*.

⁵³ Rodríguez, *Fissures in the Mediascape*.

from outsiders who are denied those benefits. For example, migration and refugee scholars Nira Yuval-Davis and Prnina Webner describe citizenship not as the relationship between an individual and the state, but as a “total relationship, inflected by identity, social positioning, cultural assumptions, institutional practices, and a sense of belonging.”⁵⁴ That “total relationship” involves the relationships between individual citizens as well as responsibilities toward the wider community. Social scientists Tom Hall and Howard Williamson offer a notion of *lived citizenship* that considers “the meaning that citizenship has in people’s lives and the ways in which people’s social and cultural backgrounds and material circumstances affect their lives as citizens.”⁵⁵ STS scholar Adriana Petryna traced “biological citizenship” in the aftermath of the Chernobyl disaster, in which assaults on health became the currency for sufferers to stake claims to biomedical resources and social equity,⁵⁶ and similarly, Jennifer Singh examines the emergence and forms of biosocial citizenships situated within autism advocacy networks.⁵⁷ Political scientists Engin Isin and Bryan Turner construct contemporary citizenship not in terms of legal rights, but “as a social process through which individuals and social groups engage in claiming, expanding, or losing rights.”⁵⁸ Likewise, socio-legal scholar Kathryn Henne describes how citizenship is “no longer—and perhaps never was—solely dependent upon one’s national affiliation or ethnic belonging; nor was it merely a matter of jurisdictional claims. Considering citizenship requires accounting for practices of governance, mechanisms of belonging and

⁵⁴ Nira Yuval-Davis and Prnina Webner, “Women and the New Discourse of Citizenship,” in *Women, Citizenship and Difference*, ed. Nira Yuval-Davis and Prnina Webner (London: Zed Books, 1999), 4.

⁵⁵ Tom Hall and Howard Williamson, *Citizenship and Community* (New York: Youth Work Press, 1999), 2.

⁵⁶ Petryna, *Biological Citizenship*.

⁵⁷ Jennifer Singh, *Multiple Autisms: Spectrums of Advocacy and Genomic Science* (Minneapolis: University of Minnesota Press, 2015).

⁵⁸ Engin Isin and Bryan Turner, “Citizenship Studies: An Introduction,” in *Handbook of Citizenship Studies*, ed. Engin Isin and Bryan Turner (London: Sage, 2002), 4.

exclusion, and the ways inequality can mediate or exacerbate difference between subjects.”⁵⁹

These dynamic constructions create a sociologically informed framing of citizenship that focuses not on legal rules or “rights talk,” but on norms, practices, meanings, and identities. With regard to sexual violence and victim-survivors, these framings of citizenship manifest around the stratified state responses to sexual violence and often outright refusal to take sexual violence cases or victim-survivors seriously.

Feminist and critical theorists view citizenship not just as a legal status, but as a sociopolitical practice in which “agency” foregrounds the possibilities of citizenship as an active and participatory practice.⁶⁰ From this perspective, the *citizen* is both a theory and agential practice of engaging with political and welfare institutions. The continued formation of formal and ad hoc “citizens’ committees” to reform problematic state practices reflects what Ruth Lister articulates as a feminist sensibility of citizenship that loosens its ties to the nation-state and reflects a synthesis of agential participation and an inclusive sense of belonging.⁶¹

This framing of citizenship is in line with other feminist articulations of citizen-activism and participation,⁶² from which Wendy Sarvasy asserts replaces “the narrow, commercialized notion of individualistic rights that bolstered the white male-privileged, laissez-faire capitalist system of democracy” by identifying new locales for citizenship action in everyday life, the workplace, state agencies, and institutions.⁶³ In the United States, women have a long tradition of

⁵⁹ Kathryn Henne, *Testing for Athlete Citizenship: Regulating Doping and Sex in Sport* (New Brunswick, NJ: Rutgers University Press, 2015), 11-12.

⁶⁰ Kathleen Jones, “Identity, Action, and Locale: Thinking About Citizenship, Civic Action, and Feminism,” *Social Politics: International Studies in Gender, State & Society* 1, no. 3 (1994): 256-270; Rodríguez, *Fissures in the Mediascape*.

⁶¹ Ruth Lister, “Inclusive Citizenship: Realizing the Potential,” *Citizenship Studies* 11, no. 1 (2007): 49-61.

⁶² See, for example, Fraser & Gordon’s (1994) “Dependency Demystified: Inscriptions of Power in a Keyword of the Welfare State;” Pateman’s (1988) *The Patriarchal Welfare State*; Piven’s (1990) *Ideology and the State: Women, Power, and the Welfare State*.

⁶³ Wendy Sarvasy, “Social Citizenship from a Feminist Perspective,” *Hypatia* 12, no. 4 (1997): 56.

engaging in this form of public citizen-activism, including the work of Lugenía Burns Hope⁶⁴ and Lillian Wald,⁶⁵ which helped catalyze new modes of accountability to ensure that public sector modes, rights, and spaces advance gender-, racial-, and class-based equality. Of course, there are perils to idealizing any form of activism, as it is often driven from disadvantage or deprivation, and the results may be discouraging. However, there remains value in approaching conceptions of *citizenship* as an expression of participatory social agency because it recasts women and other “outsiders” as actors on the political stage—validating their importance.

For sexual violence survivors, whose agency has been stripped by an aggressive act of power, engaging in citizen-activism offers a mobilization through which to recognize the structural inequality that genders and racializes sexual violence and reasserts victim-survivors’ individual and collective agency. Indeed, the rallying cry of the women’s rights movement, that “the personal is political,” reflects the sociological impulse for social “outsiders” to connect intersecting dimensions of their personal troubles to public issues—finding solidarity in the particular and universal. In this spirit, the concept of citizen-activism presents a theory and method to alter the “purpose of politics” from one of social control to one of negotiation between institutions and the public.⁶⁶

Lastly, I use the term *citizen-activism* to mirror the language that many victim-survivors use to frame their technological resistance in state institutions as being fundamentally about issues of citizenship, inclusion, and belonging, much like Marty Goddard and the Citizens

⁶⁴ Lugenía Burns Hope (1871–1947) was an Atlanta-based social reformer whose Neighborhood Union and other community service organizations worked to improve Black communities through social work, community health campaigns, and political pressure for better education and infrastructure for African Americans in the Jim Crow South. Her organizing efforts served as a grassroots model for the civil rights movement.

⁶⁵ Lillian Wald (1867–1940) was a nurse, humanitarian, and human rights advocate who founded New York’s Henry Street Settlement and was an advocate for nursing in public schools. She campaigned for suffrage, supported racial integration, and was involved in the founding of the National Association for the Advancement of Colored People.

⁶⁶ Sarvasy, “Social Citizenship from a Feminist Perspective.”

Committee for Victims Assistance did. In this sense, my use of *citizen-activism* reflects an expression of mobilized agency in an oppressive structure that repositions various “outsiders” as meaningful actors on the political stage on which they are marginalized. Consequently, this conceptualization of *citizen-activism* draws explicit attention to the interplay of the sociological concepts of *structure* and *agency*, and to the ways in which everyday people design technology that reimagines different forms of belonging, interaction with the law and criminal justice system, and conceptions of justice. As there is constant interplay between agential acts and the social structures they take place within, the output of this citizen-activism—the *anti-sexual violence technologies*—is mediated within the dominant value system of rape law. It is then perhaps not surprising that these resistive reimaginings and technological interventions often present notions of belonging that rarely appear utopian and in many instances may point us toward what differently situated feminists may consider dystopian futures and conservative ways of relating. My analysis thereby adds to the literature challenging normative constructions of technology as “progressive” and contributes to the growing body of interdisciplinary work about technology, law, and society.

Why Examine Anti-Sexual Violence Technology?

The purpose of this dissertation is to grapple with the complexities and paradoxes of technology in anti-sexual violence efforts. As innovations in technoscience and “smart” technology continue to advance at a rapid pace, there will be new resistive technologies that shape cultural understandings of sexual violence and shape how institutions respond to acts of violence in ways we cannot yet envision. The late 2010s have offered a time of collective reckoning with gender violence in the United States. This momentum has certainly spurred the creation and scaled

usage of many anti-violence technologies that I will examine in Chapters 2 and 3, which focus on prevention and reporting technology. This momentum has also facilitated renewed attention to problems with sexual assault kit governance and policy activism around victim-survivors' rights as well as official state mobilizations of electronic monitors as carceral forms of perpetrator punishment (which I discuss in Chapters 4 and 5). Taken together, these chapters reveal that if there is not sufficient attention to the politics of design and the cultural apparatus through which resistive technologies are scaled, the inevitable processes of "incorporation and transformation" with established private-sector industries or bureaucracies may reinforce rather than disrupt paths to the criminal justice system.

In addition, by tracing efforts to *design justice* through technology, the following chapters reveal how resistive technologies co-constitute multiple and mutable forms of situated power and intersectional social relations. A unifying goal of the intersectional feminist STS analyses is to examine the gendered and racialized histories and politics of technological "things" and the sociotechnical systems they reside within. In demonstrating how social movement technologies can hail survivors into gendered and racialized regimes, a key goal of this dissertation is to strengthen feminist STS understandings for how resistive technologies are a complex source of social power. As in the words of feminist scholar Deborah Johnson, "Technologies must be part of the feminist agenda because they make feminist goals harder or easier to achieve."⁶⁷

The Contributions of a Hybrid Feminist STS Approach

This examination of what anti-sexual violence technology mobilizations can tell us about power

⁶⁷ Deborah Johnson, "Sorting Out the Question of Feminist Technology," in *Feminist Technology*, ed. Linda Layne, Sharra Vostral, and Kate Boyer, (Urbana-Champaign, IL: University of Illinois Press, 2010), 51.

relations sets out to demonstrate the contours and limitations of resistive technology. In addition, this analysis develops new concepts for analyses of legal and criminal justice interventions and their gendered and racialized legacies.

Since the 1980s, feminist STS scholarship has interrogated how structures of inequality shape and are shaped by technoscience.⁶⁸ In examining these interstices, feminist perspectives are useful in revealing the complex ways that technology works to maintain or disrupt gendered stratification⁶⁹ racialization,⁷⁰ colonialism,⁷¹ and often reflects the values of white, capitalist, patriarchal culture.⁷² Building on this and other feminist STS insights, this project strives to contribute to the thread of feminist STS that explores the intersections of sexual violence, technology, and the law. In the following section, I trace existing feminist STS analysis of the material-discursive impacts of anti-sexual violence technology, before summarizing my method and sites of analyses.

Existing Feminist STS Approaches to Sexual Violence, Technology, and the Law

There is a dynamic body of work that examines the centrality of gender, race, nation, and class in shaping technoscientific responses to sexual violence, but this scholarship leaves several questions unaddressed. Scholars have argued that the sexual assault forensic exam has become a

⁶⁸ Anne Pollock and Banu Subramaniam, “Resisting Power, Retooling Justice: Promises of Feminist Postcolonial Technosciences,” *Science, Technology, and Human Values* 41, no. 6 (2016): 951-966.

⁶⁹ See, for example, Sandra Harding’s *The Science Question in Feminism* (1986) and Maureen McNeil’s *Gender and Expertise* (1987).

⁷⁰ See Ruha Benjamin’s *Race After Technology* (2019), Simone Browne’s *Darke Matters* (2015), and Anthony Hatch’s *Blood Sugar* (2016).

⁷¹ Anne Pollock, *Synthesizing Hope: Matter, Knowledge, and Place in South African Drug Discovery*, (Chicago: University of Chicago Press, 2019).

⁷² See Safiya Noble’s *Algorithms of Oppression* (2016), Kim Tallbear’s *Native American DNA* (2013), and Judy Wajcman’s *Feminism Confronts Technology* (1991).

“trial by ordeal,” in which the criminal justice system sees “real” victims as those willing to undergo the often-traumatic experience of the sexual assault exam.⁷³ Scholars have also drawn attention to the “social life” of anti-sexual violence technology, examining how the meaning and impact of technology may shift based on the sociocultural context and how technology could be alternatively designed to serve different interests and needs.⁷⁴ Sameena Mulla’s landmark ethnographic work *The Violence of Care* traces the ways in which the forensic assault exam, which blends the work of care and forensic investigation into a single intervention, shapes how victims of violence understand their own suffering, recovery, and access to justice—in short, what it means to be a “victim.”⁷⁵ In an investigation into the controversies surrounding use of the colposcope in rape investigations, Gethin Rees examines conflicts between nurses who saw the forensic potential of the magnifying technology and critics who viewed it as a mode to further harm and objectify victim-survivors’ bodies.⁷⁶

Using the STS methodology of actor-network theory, Andrea Quinlan’s analysis of the Canadian sexual assault exam kit (SAK) provides insight into the relationships between rape stereotypes and forensic evidence.⁷⁷ Quinlan explains how through feminist activists’ critiques of medico-legal rape care, the SAK stabilized a belief within the criminal justice system that technoscience could provide credible forensic evidence, institutionalization, and changes in law. Quinlan characterizes the kit, a knowledge-making technology, as a *technoscientific witness of*

⁷³ Rose Corrigan, “The New Trial by Ordeal: Rape Kits, Police Practices, and the Unintended Effects of Policy Innovation,” *Law & Social Inquiry* 38, no. 4 (2013): 920-949.

⁷⁴ For example, Andrea Quinlan, *The Technoscientific Witness of Rape: Contentious Histories of Law, Feminism, and Forensic Science* (Toronto: University of Toronto Press, 2017), and Pratiksha Baxi, *Public Secrets of Law: Rape Trials in India* (London: Oxford University Press, 2014).

⁷⁵ Sameena Mulla, *The Violence of Care: Rape Victims, Forensic Nurses, and Sexual Assault Intervention* (New York: New York University Press, 2014).

⁷⁶ Gethin Rees, “‘It Is Not for Me to Say Whether Consent Was Given Or Not’: Forensic Medical Examiners’ Construction of ‘Neutral Reports’ In Rape Cases,” *Social & Legal Studies* 19, no. 3 (2010): 371-386.

⁷⁷ Quinlan, *The Technoscientific Witness of Rape*.

sexual assault—that is, the kit itself is a seemingly neutral and objective mode of producing knowledge about a particular assault. While these studies offer valuable insights that challenge normative framings of forensic technology as a neutral and unstoried tool for supporting victim-survivors, they leave unexamined the multitudes of sexual violence technologies deployed across the carceral and *shadow-carceral state*—Beckett and Murakawa’s term for the creep of penal power through hybridity with nonpunitive spaces.⁷⁸ Such conceptualizations help us think differently about the gendered and racialized assumptions and materialities of anti-violence technologies that render sexual violence legible to different publics and, consequently, have intra-active effects on socio-legal relations.

The feminist STS approaches I use in this dissertation bring attention to these socio-legal relations through its interdisciplinary character and what criminologist Sheila Brown characterizes as a “hybrid” analysis of sexual violence technology.⁷⁹ While there is a growing body of criminological and feminist STS scholarship examining anti-sexual violence technology, there remains a dearth of research that explores how institutions and individuals use technology to craft, support, or challenge epistemes of sexual violence and safety beyond the narrow moment of the forensic sexual assault exam. The existing scholarly inquiry tends to center on the evidence produced through the forensic exam and contained in the SAK, focusing on how these technologies shape criminological knowledge about sexual violence.⁸⁰ Such scholarship provides critical insight into the multiple ontologies of forensic, investigatory sexual violence

⁷⁸ Katherine Beckett and Naomi Murakawa, “Mapping the Shadow Carceral State: Toward an Institutionally Capacious Approach to Punishment,” *Theoretical Criminology* 16, no. 2 (2012): 221-244

⁷⁹ Sheila Browne, “The Criminology of Hybrids: Rethinking Crime and Law in Technosocial networks,” *Theoretical Criminology* 10, no. 2 (2006): 223-244.

⁸⁰ For example, Mulla, *The Violence of Care*; Quinlan, *The Technoscientific Witness of Rape*.

Rees, “It’s Not for Me to Say if Consent Was Given;” and Deborah Parnis and Janice DuMont, “Symbolic Power and the Institutional Response to Rape: Uncovering the Cultural Dynamics of a Forensic Technology,” *Canadian Review of* 43, no. 1 (2006): 73-93.

technologies while revealing how these particular technologies can cease to be supportive tools for victim-survivors. Yet the existing scholarship is less helpful for understanding how anti-violence technologies are a contested source of power that shapes multiple meanings of sexual violence and justice in rape prevention, reporting, investigation, and punishment—and why, overwhelmingly, these technologies have a path dependence that points victim-survivors toward rather than away from the criminal justice system, a focus that often further disadvantages communities of color.

Alternatively, the impact of technology on the criminal justice system has been convincingly established by the work of socio-legal and technology scholars such as Sheila Jasanoff who argues that “American political culture derives its distinctive flavor as much from faith in scientific and technological progress as from a commitment—some might even say an addiction—to resolving social conflicts through law.”⁸¹ Indeed, much anti-sexual violence activism that occurred between the 1970s and 1990s stemmed from a belief in the power of law and technological innovation.⁸² Despite the numerous claims made by proponents about anti-violence technologies—especially that these objects have truth value that will mobilize institutional accountability or can even generate *probative evidence* (evidence sufficient to prove something “important” at trial), these technologies have had seemingly little impact on what remain appallingly low prosecution rates. Statistics from the National Crime Victimization Survey and the Federal Bureau of Investigation’s Uniform Crime Report affirm this insight. Analysis of these sources conducted by RAINN (Rape, Abuse & Incest National Network), the nation’s largest anti-sexual violence organization, estimates that while every 92 seconds

⁸¹ Sheila Jasanoff, *States of Knowledge: The Co-Production of Science and the Social Order* (New York: Routledge, 2004), 1.

⁸² Bevacqua, *Rape on the Public Agenda*; Shelby, “Whose Rape Kit?”; Shelby, “Techno-Physical Feminism.”

someone in the United States is sexually assaulted, only five out of 1,000 perpetrators will be convicted.⁸³

In light of rape law reform's failure to effect arrest and prosecution, Black feminist and socio-legal scholars have critiqued the conflation of "justice" with the carceral punishment of perpetrators.⁸⁴ To this end, there is a significant body of interdisciplinary scholarship addressing the limitations of the gender violence movement's embrace of the criminal justice system. This literature includes long-standing critiques from Black feminists on the negative impact of this embrace as it effects poor communities and people of color,⁸⁵ as well as the need to focus on finding justice in alternative community-based accountability structures.⁸⁶ For good reasons there have always been victim-survivors and advocates who rejected the legal response to violence. Perhaps because the legal system remains so inert and because it is a setting in which so many victim-survivors fail to find any semblance of justice, is precisely why citizen-activists continue to see it as an alluring site of much-needed intervention. Many individual advocates and victim-survivors contend that a criminal justice system that is attentive and responsive to sexual violence reflects a public acknowledgment that sexual violence should not occur.⁸⁷ From a sociological perspective, because the criminal justice system's various punishment rituals are symbolic and normative,⁸⁸ they demonstrate society's collective disdain for violations of shared

⁸³ See for example RAINN, "Statistics," accessed May 30, 2019, <https://www.rainn.org/statistics>.

⁸⁴ For example, Elizabeth Bernstein, "Carceral Politics as Gender Justice? The "Traffic in Women" and Neoliberal Circuits of Crime, Sex, and Rights," *Theory and Society* 41, no. 3 (2012): 233-259; Wendy Larcombe, "Falling Rape Conviction Rates: (Some) Feminist Aims and Measures for Rape Law," *Feminist Legal Studies* 19, no. 1 (2011): 27-45; Clare McGlynn, "Feminism, Rape and the Search for Justice," *Oxford Journal of Legal Studies* 31, no. 4 (2011): 825-842; and Thuma, *All Our Trials*.

⁸⁵ For example, Crenshaw, "Mapping the Margins;" and Beth Richie, *Arrested Justice: Black Women, Violence, and America's Prison Nation* (New York: New York University Press, 2012).

⁸⁶ Kristin Bumiller, *In an Abusive State: How Neoliberalism Appropriated the Feminist Movement Against Sexual Violence*, (Durham, NC: Duke University Press, 2008).

⁸⁷ Ruth Lewis, Rebecca Dobash, Russell Dobash, and Kate Cavanagh, "Law's Progressive Potential: The Value of Engagement with The Law for Domestic Violence," *Social & Legal Studies* 10, no. 1 (2001): 105-130.

⁸⁸ David Garland, "Frameworks of Inquiry in the Sociology of Punishment," *British Journal of Sociology* (1990): 1-15.

core values.⁸⁹ Thus, there are significant tensions among and between different publics around embracing or rejecting the criminal justice system as a means of finding justice.

Although U.S. rape law reform, which attempted to shift the focus in cases from the victim to the offender, failed to progressively transform the way the justice system treats sexual violence cases, many victims still desire and pursue criminal and institutional forms of justice. This type of *legal consciousness*, referring to how citizens conceive of and negotiate the law in everyday life,⁹⁰ remains a critical part of people's decision-making in terms of the commodities purchased to prevent rape, the different modes through which victim-survivors report crime, the legal codes that shape storage and use of evidence produced from victim-survivors' bodies, and the emerging forms of technological punishment. Socio-legal scholars have found that, in practice, the SAK is used by different legal actors, such as sexual-assault nurse examiners, law enforcement, and prosecutors, simply to reinforce *rape myths*—referring to prejudicial, stereotyped, and false beliefs about assaults, rapists, and victims—thus creating inequitable access to legal resources.⁹¹ These scholars have also found that despite the perceived value attached to the sexual assault kit, this forensic evidence is rarely used to prosecute cases⁹² and, when used, is often presented to ensure that cases align with the narratives constructed through durable rape myths. This finding raises profound questions about the relationship between technological design and historically situated conceptions of justice.⁹³

Rape law reform, initiated by feminists during the movement's second wave, sought a

⁸⁹ Emile Durkheim, *The Division of Labor in Society* (New York: Simon and Schuster, 2014).

⁹⁰ Sally Engle Merry, *Getting Justice and Getting Even: Legal Consciousness Among Working-Class Americans* (Chicago: University of Chicago Press, 1990). See also, Patricia Ewick and Susan Silbey, *The Common Place of Law: Stories from Everyday Life* (Chicago: University of Chicago Press, 1998).

⁹¹ Rose Corrigan, *Up Against a Wall Rape Reform and the Failure of Success* (New York: New York University Press, 2013).

⁹² Janice DuMont and Deborah White, *The Uses and Impacts of Medico-Legal Evidence in Sexual Assault Cases: A Global Review* (Geneva, Switzerland: World Health Organization, 2007).

⁹³ Baxi, *Public Secrets of Rape*.

wide range of regulatory changes, including: expanded definitions of rape and consent; amendments to jury directions; abolishment of the witness corroboration requirement; restrictions on the admission of a victim-survivor's history into evidence; provision of witness and victim support services, reparations, and victim compensation; and criminalization of marital rape. While these legal achievements in many ways are remarkable, many scholars, practitioners, and activists have extensively argued that the overall impact of rape law reform has been minimal,⁹⁴ and there remains little debate that victim-survivors continue to face substantial obstacles in seeking justice through criminal law. As socio-legal scholars Nicola Henry, Asher Flynn, and Anastasia Powell suggest, "law disguised as justice may bring some satisfaction and other therapeutic gains to victim-survivors and the community more generally, but law can never fully erase the injury or long-term impacts of violence. Law ultimately promises, but fails to deliver, justice."⁹⁵

In shifting away from the law and the state as a remedy for social injury, publics and counterpublics are increasingly engaging technology to support victim-centered models of justice, including through social media and digital platforms, and, in doing so, to also rearticulate these technologies in relationship to body politics.⁹⁶ These efforts further support a conception of justice as a "relational and contextual practice,"⁹⁷ creating new opportunities for disenfranchised

⁹⁴ See Kathleen Daly and Brigitte Bouhours, *Conventional and Innovative Justice Responses to Sexual Violence* (Melbourne, Australian Institute of Family Studies, 2011); and Larcombe, "Falling Rape Conviction Rates."

⁹⁵ Nicola Henry, Asher Flynn, and Anastasia Powell, "The Promise and Paradox of Justice: Rape Justice Beyond the Criminal Law," in *Rape Justice*, ed. Anastasia Powell, Nicola Henry, and Asher Flynn (London Palgrave Macmillan, 1-17), 5.

⁹⁶ See, for example, Hester Baer, "Redoing Feminism: Digital Activism, Body Politics, and Neoliberalism," *Feminist Media Studies* 16, no. 1 (2016): 17-34; Powell, "Seeking Rape Justice;" Carrie Rentschler, "Bystander Intervention, Feminist Hashtag Activism, and the Anti-Carceral Politics of Care," *Feminist Media Studies* 17, no. 4 (2017): 565-584.; Sherri Williams, "Digital Defense: Black Feminists Resist Violence with Hashtag Activism," *Feminist Media Studies* 15, no. 2 (2015): 341-344.

⁹⁷ Wendy Brown, *States of Injury: Power and Freedom in Late Modernity* (New Haven: Princeton University Press, 1995), 6.

groups to craft their own justice discourses.⁹⁸

Existing socio-legal analyses reveal significant gaps between how technology is perceived to be value-neutral and how it can be exploited as a knowledge-making practice to reproduce stereotypes about victims, perpetrators, and sexual violence itself.⁹⁹ Many of these stereotypes are rooted in prejudicial ideas about race and gender.¹⁰⁰ Contemporary scholarship shows that these stereotypes continue to shape institutional responses to sexual violence in ways stratified by race and class, despite victim protection efforts enacted through rape law reform from the 1970s onward.¹⁰¹ Other scholarship shows that these stereotypes may suppress the likelihood of racial and other minorities of ever seeking legal help.¹⁰² Rape myths and stereotypes that impact legal decision-making can additionally emerge in the design of sexual violence technology.¹⁰³ Consequently, critics argue that inadequate designs of anti-violence technology amplifies, rather than redresses, intersecting racial, economic, and gender inequities.¹⁰⁴

In summary, feminist STS and socio-legal perspectives on the entangled relationships between humans and anti-violence technologies are useful in thinking through the networked constellations of cultures, people, and objects that create knowledge about sexual violence. Bringing these perspectives to criminology and socio-legal studies can help expose the web of relations that stabilize and normalize sexual violence epistemologies through technology within

⁹⁸ Henry, Flynn, and Powell, “The Promise and Paradox of Justice.”

⁹⁹ Corrigan, “The New Trial by Ordeal.”

¹⁰⁰ Crenshaw, “Demarginalizing the Intersection of Race and Gender,” Higginbotham, “African-American Women’s History and the Metalanguage of Race.”

¹⁰¹ Richie, *Arrested Justice*.

¹⁰² Xavier Guadalupe-Díaz and Jana Jasinski, “‘I Wasn’t a Priority, I Wasn’t a Victim’ Challenges in Help Seeking for Transgender Survivors of Intimate Partner Violence,” *Violence Against Women* 23, no. 6 (2017): 772-792.

¹⁰³ Mulla, *The Violence of Care*.

¹⁰⁴ Baxi, *Public Secrets of Law*.

the carceral and shadow-carceral state. As Sheila Brown asserts, “Analyses of criminal justice can no longer rest at analyses of social interests and motivations, but must address the technological properties of the body politic, and of the institutional landscape of control, as inseparable from their form.”¹⁰⁵ To analyze these relations, it is necessary to assess the assumptions embedded in the design of a technology,¹⁰⁶ the social and legal knowledge produced and reproduced from that design, and the way this knowledge affects formal decisions about sexual assault cases within the criminal justice system. In short, how does technological design influence reporting, investigation, and punishment practices?

Focus and Method

I analyze the designs and mobilizations of anti-violence technology, using *discourse analysis*, which interprets the possible meanings of texts in terms of the multiple systems of power that shape their construction and distribution. *Discourse* can be understood as a means of constructing and distributing meanings in a way that governs what we consider to be true about the social world and ourselves.¹⁰⁷ Discourse analysis interprets the possible meanings of texts in terms of the multiple systems of power that shape their construction and distribution,¹⁰⁸ and is a popular method for analyzing technology; as STS scholar John Law argues, sociotechnical objects and their relational networks can be understood as smaller and empirical versions of Foucault’s epistemes or discourses.¹⁰⁹ Many feminist and critical STS researchers also apply this

¹⁰⁵ Brown, “The Criminology of Hybrids,” 236.

¹⁰⁶ See Noble, “A Future for Intersectional Black Feminist Technology Studies.”

¹⁰⁷ Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (Sussex, England: Tavistock, 1970).

¹⁰⁸ David Hoy, “Foucault and Critical Theory,” in *The Later Foucault*, ed. J. Moss (Thousand Oaks: Sage, 1998), 18-32.

¹⁰⁹ John Law. “On Sociology and STS,” *The Sociological Review* 56, no. 4 (2008): 623-649.

approach to examine the reciprocal material and semiotic effects of sociotechnical objects. For example, Jackie Orr uses discourse analysis to trace the intertwined genealogies of panic disorder and psychotropic drugs,¹¹⁰ Anthony Hatch uses discourse analysis to examine how psychotropic drugs enable mass incarceration,¹¹¹ and Jennifer R. Fishman and Laura Mamo use discourse analysis to examine the development of two FDA-approved technologies to treat male and female sexual dysfunction and how these technologies reinforce normative gender ideology.¹¹²

The form of discourse analysis I use is inspired by Foucault's conception of discourse as a means of constructing and distributing meanings in a way that governs what we consider to be true about the social world and ourselves.¹¹³ Foucault and other poststructuralist theorists did not propose a definitive methodology for analyzing discourses.¹¹⁴ Thus, the specific research procedures that encompass discourse analysis vary widely. The particular form of discourse analysis that I use involves iteratively identifying discursive themes that inform each of the four moments of sexual assault.¹¹⁵ Although I identify specific meanings in the text, recognizing the absence of implicit discourses about sexual violence, sexual offenders, and victims is also important. The identification of "what is missing" is characteristic of discourse analysis, as this

¹¹⁰ Jackie Orr, *Panic Diaries: A Genealogy of Panic Disorder* (Durham, NC: Duke University Press, 2006).

¹¹¹ Anthony Hatch, *Silent Cells: The Secret Drugging of Captive America* (Minneapolis: University of Minnesota Press, 2019).

¹¹² Jennifer Fishman and Laura Mamo, "What's in a Disorder: A Cultural Analysis of Medical and Pharmaceutical Constructions of Male and Female Sexual Dysfunction," *Women and Therapy* 24, no. 1-2 (2002): 179-193.

¹¹³ Foucault, *The Order of Things*.

¹¹⁴ Hoy, "Foucault and Critical Theory."

¹¹⁵ Nancy Hartsock (1983) is a feminist researcher who analyzed historical materialism. She used Foucault's methods to analyze how relations of domination are constructed along gender lines. In *The Order of Things* (1970), Michel Foucault uses the technique of archeology to "excavate" the origins of the human sciences. Jana Sawicki (1991) argues that a feminist Foucauldian analysis of power and knowledge is possible and that employing such a method can benefit feminist analyses of discourses. Seale (1998) examines the social construction of death and dying using a Foucauldian-inspired method. Emerson, Fretz, and Shaw are the authors of *Writing Ethnographic Fieldnotes* (2011). They developed a method for interpreting qualitative data in terms of unrooting discursive messages.

contributes to a more contextual understanding of the meanings of a particular discourse.¹¹⁶

Therefore, I interpret the text for alternative meanings through identifying exclusions, erasures, and missing information to ensure saturation and a more holistic analysis. To ensure a rigorous and focused interpretation, I have crafted a set of theoretically informed questions to guide the analysis. These are:

1. What are the origins and purpose of the technology? Who was involved in its development, and has this changed over time?
2. What is the technology's relationship to the state? To what extent do official state actors have control over the use and circulation of the technology?
3. How does the technology co-constitute constructions of "vulnerability" and "justice"?
4. What cultural knowledge about race, gender, and class does the technology amplify or silence?
5. Does the technology promote or constrain access to local or community-based resources?
6. Does the technology create path dependence toward the criminal justice system, or does it offer an alternative approach?

Sites of Analysis: Technology Before and After Sexual Violence

This dissertation contributes to the feminist STS literature on sexual violence, technology, and law by examining the politics of anti-violence technology design and mobilizations. Thus, it is an interpretive, qualitative study of how technology is taken up in four key moments: (1) the moment of attack, (2) the experience of reporting sexual violence, (3) the state's investigation of sexual violence, and (4) the perpetrator's punishment. While the overarching theme of this

¹¹⁶ Kathy Charmaz, *Constructing Grounded Theory* (Thousand Oaks: Sage, 2014).

dissertation is on anti-violence technological activism, by narrowing in on different types of technology, I also expose the different ways these objects become a dynamic and contentious source of power. The data for this project include archival, narrative, and published scientific sources which substantially reference the social processes that produced the four types of technologies I examine. In the remainder of this chapter, I briefly describe each key moment and the types of anti-violence technology that I will analyze, as well as preview the findings of each chapter.

The Moment of Attack and Commercial Anti-Rape Products

In Chapter 2, “The Sociotechnical Imaginary of Anti-Rape Technology: Constructing Alternative Justice Futures,” I analyze data on rape-prevention technologies, demonstrating that inventors and technology companies use advertising not only to sell rape-prevention products as a safety alternative to the police response, but also to narrate an imagined future in which sexual violence is not a social problem. I show how proponents of these products imagine that anti-rape technology, as epistemic objects, will individually empower women vulnerable to sexual assault and catalyze cultural change. While the scant existing literature on anti-rape technology has focused on how these products reify rape myths, I argue that the mobilization of rape-prevention technology is better understood as a sociotechnical imaginary—an STS concept articulated by Sheila Jasanoff and Sang-Hyun Kim.¹¹⁷ This concept refers to a set of collectively held and publicly performed ideas, beliefs, and vision about a *desirable* future. Using the sociotechnical imaginary concept, I show how inventors and promoters of anti-rape products use the imaginary as an action repertoire to envision the future of women’s safety as one that knits together

¹¹⁷ Sheila Jasanoff and Sang-Hyun Kim, “Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea,” *Minerva* 47, no. 2 (2009): 119.

consumerism, gendered self-discipline, and networked information communication technologies in the name of women's "empowerment." However, despite inventors' biggest desires, the imaginary draws on a single-axis framework of vulnerability around gender, revealing how the effort to mobilize new technology as an alternative to law enforcement has material-discursive effects that co-produce rather than challenge hegemonic representations of sexual violence. I further suggest that although many anti-rape technologies are developed by women of color, the commercialization of rape-prevention technology constructs an imagined user, intrinsically relying upon and reifying a neoliberal, white, middle-class subject position.

The Institutional Report and Digital Reporting Software

Drawing on Chapter 2's insight that citizen-activists develop and mobilize rape prevention technology as a repertoire of resistance, in Chapter 3, "Knowing-Making Rape Reporting Platforms: Coding Intersectionality Through Value-Hypotheses," I examine how designers can engage intersectionality theory to develop material-discursive practices of resistance that account for the intricacies of rape and its relationship to multiple forms of oppression. I do so by investigating three reporting platforms as case studies—Callisto, Spot, and JDoe. The logic of rape reporting platforms is that software can increase the likelihood a survivor will report assault and can place demands on institutions to act on serial perpetrators. Perhaps not surprisingly, although citizen-activists use reporting platforms to address the power dynamics of reporting, they fall short in creating meaningful supports for those survivors traditionally marginalized as "suspicious" (e.g., women of color). As advocates increasingly mobilize reporting software as a necessary part of institutional responses to sexual violence, this chapter offers an alternative design framework for counterpublics to "liberate" anti-violence technologies by encoding

intersectionality, rather than whiteness, into their resistive technologies. Simply stated, in this chapter I suggest while reporting platforms may have different affordances and aims, software code and algorithms can be strategically designed to disrupt rape myths and create cultures of accountability thus articulating “victim-centered” approaches to justice.

The State’s Investigation and the Sexual Assault Exam Kit

In Chapter 4, “Mending the Sexual Assault Kit: Ordering Evidence and Responsibilizing Survivors,” I examine the racial politics of institutionalized sexual violence interventions through a focus on how citizen-activists seek to restructure the flow of forensic evidence. I analyze newspaper and legislative records of rape kit activism, published in ProQuest and LexisNexis between 1973 (when the kit was first developed) and 2019. I use these data to confront how racism and sexism are enmeshed in the circulation of forensic evidence, thus shaping the way agents of the state “see” and respond to sexual violence cases in racially stratified ways, and show how Black women and other women of color’s on-going activism around sexual violence represents a challenge to this exclusion. In this chapter I propose the sexual assault kit is a mode of survivor *responsibilization*, in which individual survivors, including and especially women of color, are held accountable by the state to actively participate in redressing their own victimization through the kit. I then examine how contemporary rape kit governance perpetuates historical inequalities through the state’s *irresponsibilization* in not processing rape kits, while also highlighting survivor resistance to these practices of state power.

Punishment and the Electronic Monitoring of Sex Offenders and Abuse Survivors

In Chapter 5, “Electronic Monitors and the Politics of Meaning: Punishing Sexual Subjectivities,” I trace the historical development of electronic monitors during the early rise of computing as a method of positive reinforcement for young men on probation and parole and its subsequent fixture in the criminal justice system as a for-profit measure of social control. Here, I focus on how state actors comprise an “official public” that circulates gendered and racialized narratives of the sex offender figure, and how the paradigm shift in the meanings attached to the monitor transformed the technology from a perceived mode of persuasive behavioral rehabilitation to a punitive object that is deployed to punish racialized sexual subjectivities. The data for this chapter include a survey of commercial sex offender GPS tracking devices, declassified local and state police documents published between 1960 and 2019, and investigative news and media coverage. I argue the legal mandate to wear GPS trackers is a symbolic practice of punishing assault that emphasizes a mandate to control the built environment, rather than stop sexual violence.

From a Legal to a Techno-Legal Response to Violence

In the final chapter, I contextualize my findings through a discussion of how anti-sexual violence technologies are a vital part of how citizen-activists and official state actors—as *mobilized publics*—seek to prevent, report, investigate, and punish sexual violence. I argue these forms of activism mark a shift in the dominant response to violence: from a legal to a technolegal response to violence. I then summarize my contributions to the broader field of science, technology, and mobilized publics, and to the study of sexual violence: First, that public participation in the creation of technology is a kind of social movement, through which resistive

technologies constitute gendered and racialized subjects. Second, by incorporating intersectional analyses, this dissertation shows that without attention to interlocking systems of power, social movement technologies produce two forms of contentious knowledge, including between citizen-activists and the incumbent regime, and among differently situated citizen-activists. Lastly, that for those working on-the-ground to develop more survivor-informed, intersectional and democratic responses to sexual violence, citizen-activists must recognize how even resistive technologies can hail survivors into sexist and racist regimes. In addition, to concerns of how the emphasis on innovation in developing technology can articulate anti-violence goals to those of market entrepreneurs, citizen-activists must also be wary of what I call “criminal justice symbiosis”—in which the emphasis on formal justice leads to an articulation of anti-violence goals within the dominant knowledge cultures of police, prosecutors, and “get tough on crime” policymakers.

2

The Sociotechnical Imaginary of Anti-Rape Technology

Imagining Alternative Justice Futures

The “Nirbhaya” Assault and Global Public Frustration with Governance Feminism

On December 16, 2012, Jyoti Singh, a 23-year-old physiotherapy student, and her boyfriend, Awindra Pandey, went to a film in the Munirka area of South Delhi, a neighborhood home to mostly students and migrants. Afterward, the couple boarded a bus that was driven and occupied by six men. The men taunted the couple, asking Awindra “what he was doing out with an [unmarried] girl at that time of night.”¹ Angered at the couple’s violation of gender norms and wanting to “teach the couple a lesson,”² the men proceeded to beat Awindra and knock him unconscious. They then dragged Jyoti to the back of the bus and repeatedly raped and tortured her with metal bars as the bus circled the city. When finished, they tossed the couple off the bus, where a patrolman found them—but it was too late for police help. Jyoti suffered a major brain

¹ “India’s Daughter,” directed by Leslee Udwin (Florence, Italy: Berta Films, 2015), 26:40.

² BBC, “Delhi Rapist Says Victim Shouldn’t Have Fought Back,” March 3, 2015, <https://www.bbc.com/news/magazine-31698154>.

injury and developed infections in her lungs and abdomen. Thirteen days later, she died at Mount Elizabeth Hospital in Singapore.

The brutal assault captured the world's attention, and, overnight, the issue of rape in India catapulted from a feminist concern to a mainstream, public issue.³ For many, Jyoti was a symbol of normalized gender violence and a consequence of the law's failure to protect women in India and elsewhere. In response to the assault, thousands of young people marched on India Gate and Raisina Hill—the site of India's Parliament and home to India's president. The protesters called Jyoti “Nirbhaya,” which means “fearless,” for fighting against her attackers; and the word subsequently became a rallying cry for feminists frustrated with India's, and their own nations', criminal justice response to gender violence.

Hundreds of thousands of people around the world took to social media platforms and used the Nirbhaya case to express concerns about the failed eradication of rape due to inadequate statutes, protest ineffective practices of police governance,⁴ and condemn sexist social attitudes toward women.⁵ The momentum of this outcry led the organization of UN Women⁶ to urge the Indian government “to do everything in their power to take up radical reforms, ensure justice and reach out with robust public services to make women's lives more safe and secure.”⁷ Likewise,

³ Prabha Kostiswaran, “Governance Feminism in the Post-Colony: India's Rape Law Reforms of 2013,” *King's College London Law School Research Paper* 2016-39 (2016).

⁴ For an in-depth ethnography of rape trials and the perverse outcomes of the Indian legal system, see Baxi, *Public Secrets of Law*.

⁵ For detailed analysis on the substance and content of this social media protest, see Ahmed, Saifuddin, Kokil Jaidka, and Jaeho Cho, “Tweeting India's Nirbhaya Protest: A Study of Emotional Dynamics in an Online Social Movement,” *Social Movement Studies* 16, no. 4 (2017): 447-465.; Maitrayee Chaudhuri, “National and Global Media Discourse After the Savage Death of ‘Nirbhaya’: Instant Access and Unequal Knowledge,” in *Studying Youth, Media and Gender in Post-liberalisation India: Focus on and Beyond the ‘Delhi Gang Rape’*, ed. Nadja-Christina Schneider and Fritz-Marie Tizmann (Berlin: Frank & Timme, 2015), 19-44; and Adrija Dey, *Nirbhaya, New Media and Digital Gender Activism* (Bingley, UK: Emerald Publishing, 2018).

⁶ The United Nations Entity for Gender Equality and the Empowerment of Women, also known as UN Women, is a sub-organization of the United Nations working for the empowerment of women.

⁷ UN Women, “*UN Women Condemns Gang Rape of Delhi Student*,” December 20, 2012, <https://www.unwomen.org/en/news/stories/2012/12/un-women-condemns-gang-rape-of-delhi-student>.

the U.S. State Department publicly “recommitted [themselves] to changing attitudes and ending all forms of gender-based violence, which plagues every country in the world.”⁸ Individual activists, too, believed the case to be a catalyst for worldwide change. Activist and playwright Eve Ensler,⁹ who organized the non-profit organizations V-Day and One Billion Rising,¹⁰ declared the case a turning point in India and around the world. Ensler spent three weeks in India, participating in protests, and said:

Having worked every day of my life for the last 15 years on sexual violence, I have never seen anything like that, where sexual violence broke through the consciousness and was on the front page, nine articles in every paper every day, in the center of every discourse, in the center of the college students’ discussions, in the center of any restaurant you went in. And I think what’s happened in India, India is really leading the way for the world. It’s really broken through. They are actually fast-tracking laws. They are looking at sexual education. They are looking at the bases of patriarchy and masculinity and how all that leads to sexual violence.¹¹

Within a month of this interview and just three months after Jyoti’s death, this optimism that India would lead the world to find gender equality through *governance feminism*¹²—a term which captures how feminist ideas are instantiated into state power as well as the insertion of feminist knowledge, technique, and practice into institutional contexts—was seemingly realized. Activists’ demands pressured the Indian government to assemble an expert judicial committee that would reexamine the limitations in its legal system contributing to systemic gender inequality. After considering nearly 80,000 public responses about how to better investigate and

⁸ U.S. Embassy, “U.S. Embassy New Delhi, India, Statement on the Death of New Delhi Assault Victim,” December 29, 2012, <https://web.archive.org/web/20130729221639/http://newdelhi.usembassy.gov/pr122912.html>.

⁹ Ensler is an American playwright most famous for *The Vagina Monologues*.

¹⁰ One Billion Rising is a global campaign to end violence against women that began in 2012.

¹¹ Democracy Now, “One Billion Rising: Playwright Eve Ensler Organizes Global Day of Dance Against Sexual Abuse,” last modified February 14, 2013, https://www.democracynow.org/2013/2/14/one_billion_rising_playwright_eve_ensler#transcript.

¹² For more on governance feminism, see Shruti Iyer, “Taking a Break from the State: Indian Feminists in the Legal Reform Process,” *Journal of International Women's Studies* 17, no. 2 (2016): 18-29.; and Janet Halley, Prabha Kotiswaran, Rachel Rebouché, and Hila Shamir, *Governance Feminism: An Introduction*, (Minnesota: University of Minnesota Press, 2018).

prosecute rape, the committee produced the landmark Verma Report. The report, striking in its embrace of governance feminism and legal liberalism, called for a broadened definition of rape, declared the language around women's "modesty" and "shame" be removed from the criminal code, and demanded that rape investigations and prosecutions must move more quickly. Justifying their stance, the judicial committee emphasized that they did not want to let down the "fantastic civil society that gathered around India Gate" in protest of the Nirbhaya assault,¹³ and on March 13, 2013, President Mukherjee signed the Criminal Law Ordinance, reforming the legal code and creating six fast-track courts to hear rape cases.

On paper, Indian rape law reform was swift and aspirational. It seemed to offer good-faith action to promote gender equality *symbolically* by undoing women's second-class legal status and *substantially* by adopting regulations to deter violence and increase reporting by correcting gender-biased rape statutes and institutionalized rape myths. The same week the Ordinance was enacted, the U.S. State Department posthumously awarded Jyoti the International Women of Courage Award for catalyzing the emancipatory civil action that created "legislation and social programs to stem gender-based violence in all its forms and to ensure higher rape conviction rates and gender-sensitive law enforcement and justice systems."¹⁴ Years later, however, many activists remain frustrated with the lack of progress on gender violence in India—especially in the criminal justice system. Despite efforts to speed up rape investigations and prosecutions, the legal system remains slow to act.¹⁵ On the fifth anniversary of the attack, Jyoti's parents spoke to reporters, lamenting the unkept promises of gender equality that were

¹³ *India's Daughter*, 37:05.

¹⁴ U.S. State Department, "2013 International Women of Courage Award," March 4, 2013, <https://web.archive.org/web/20130308095225/http://www.state.gov/s/gwi/programs/iwoc/2013/bio/index.htm>.

¹⁵ Neha Tara Mehta, "The Slow Road to Justice for India's Rape Victims," *Aljazeera*, August 18, 2016, <https://www.aljazeera.com/indepth/features/2016/08/slow-road-justice-india-rape-victims-160817095526223.html>.

supposed to be achieved through rape law reform. When asked if he thought there had been any change in the judicial system, Jyoti's father stated, "No with a capital *N*."¹⁶

The specter of rape law reform's failure to transform on-the-ground change in attitudes and practice is one that haunts governance feminists around the world. Similar to many of the profound disappointments of American rape law reform (1970s–2000s) in changing rape outcomes—which disenchanted some feminists and which legal scholars agree had little substantive impact in changing much of the legal landscape¹⁷—the high-profile Nirbhaya case reaffirmed a critical limitation of the legal approach: that even with swift and wide-sweeping reform, many women, especially those on the margins of society, never feel the judicial reach of statutory changes. While the Nirbhaya case did not result in meaningful on-the-ground criminal justice reform,¹⁸ the case was crucial in helping to generate a new wave of technological activism that deploys rape prevention technologies.

In this chapter, I examine how these citizen-activists mobilize anti-rape technology as a material-discursive practice of resistance. First, through analysis of news stories, U.S. government records, and media coverage, I trace the emergence of these resistive technologies and identify the additional social and political conditions that affected the market viability of these objects. Here, I also engage existing feminist critiques of these resistive technologies, written by scholars and writers in the blogosphere. Then, in the second part of this chapter, I use the STS concept of the sociotechnical imaginary to analyze how proponents consider these objects as more than products to be sold, to imagine them as empowering alternatives to the

¹⁶ Rosita Boland, "Five Years After Rape and Murder of Jyoti Singh, Nothing Has Changed In India," *Irish Times*, December 16, 2017, <https://www.irishtimes.com/news/world/asia-pacific/five-years-after-the-rape-and-murder-of-jyoti-singh-nothing-has-changed-in-india-1.3329303>.

¹⁷ See Corrigan, "The New Trial by Ordeal"; and Ilene Seidman and Susan Vickers, "The Second Wave: An Agenda for the Next Thirty Years of Rape Law Reform," *Suffolk Law Review*, 38 (2004): 467.

¹⁸ See, for example, Baxi, *Public Secrets of Law*; Kotiswaran, "Governance Feminism in the Post-Colony;" Bahdra, "Rape Law Reforms in India," and Lodhia, "From 'Living Corpse' to India's Daughter."

criminal justice system. I argue this imagining comprises an action repertoire to mobilize gender equity through an *inclusion through technology* ideology that positions anti-rape technology as a safety solution effective for all women regardless of social location. However, despite appealing to inclusion, by reducing violence to matters of gender relations, rather than interrogating how a sole focus on gender conceals the ways that race and ethnicity saturates other forms of oppression such as class, and sexual orientation, these resistive technologies fail to fully address complex power relations. Such strategies sidestep important questions of difference, as well as important struggles and sites of subversion within anti-rape movements. And yet by working outside of legal systems—systems that are slow to respond to survivor claims while producing race and class inequalities—these technologies do offer some resistant possibilities.

The Emerging Mobilizations of Rape Prevention Products

As the protesters took to the streets and the Internet in support of Nirbhaya, Manisha Mohan, a 20-year-old aerospace engineering student at SRM University in Chennai, India, began exploring how new forms of technology could assist women when legal institutions and law enforcement would not.¹⁹ The concept of wearable technology intrigued Mohan, and she believed it held the potential, as she often says, “to give voice” to women like Jyoti Singh who did not have one.²⁰ At SRM, Mohan, with several other engineering students, invented her first anti-rape product—an electrified bra called Society Harnessing Equipment or SHE that protects the wearer by shocking assailants with 3,800 volts if the material detects a grab, pinch, or squeeze.²¹ Beyond

¹⁹ Pratyush Patra, “Sensor and Timely Sensibility,” *The Asian Age*, August 20, 2017, <https://www.asianage.com/age-on-sunday/200817/sensor-and-timely-sensibility.html>.

²⁰ Manisha Mohan, “How Technology Can Empower Silent #MeToo,” filmed August 15, 2018, at TEDx Gateway, <https://www.youtube.com/watch?v=vYY3vL4QNPY>.

²¹ Krishnan, M, “Indian Engineers Design Electric Anti-Rape Bra,” *DW Academy*, July 22, 2014, <https://www.dw.com/en/indian-engineers-design-electric-anti-rape-bra/a-17798277>.

the bra's corporeal punishment, when triggered it sends a text of the wearer's GPS location to a predetermined relative or friend. Mohan received international acclaim after she presented the product at the prestigious Innovation Scholars In-Residence program, hosted by Indian President Pranab Mukherjee, where the nation's top inventors and thinkers present their latest innovations. Media outlets such as CBS News,²² the BBC,²³ Bustle,²⁴ and BuzzFeed²⁵ covered SHE, catapulting Mohan into international fame while displaying a high-profile example of how technological innovation could seemingly offer a viable, market-based counter to violence.

Mohan continued her quest to develop resistive technology as a graduate student at the Massachusetts Institute of Technology (MIT) Media Lab. Studying differences between the legal response to rape in India and in the U.S., she sought to develop technological solution that could "reach each and every woman"²⁶ regardless of their location or social status under the law. While at MIT, Mohan created a prototype for another technology called Curbing Assault to Protect Society or CAPS, a product composed of wearable body capsules that, when triggered, produce a repulsive odor that deters attackers.²⁷ Soon after, she developed Intrepid, which once again brought her international acclaim. Intrepid is a wearable adhesive composed of conductive layers of hydrogel that can be attached to a woman's underwear to detect if the clothing has been

²² CBS News "Indian Students Invent Anti-Rape Underwear," July 7, 2014, <https://www.cbsnews.com/news/indian-students-invent-anti-rape-underwear/>.

²³ Fiona Graham, "Wearable Technology: The Bra Designed to Shock Attackers," *BBC News*, April 16, 2013, <https://www.bbc.com/news/business-22110443>.

²⁴ Abby Johnston, "India's Electric Shock Anti-Rape Bra, 'Society Harnessing Equipment,' Is Terrifying and Necessary," *Bustle*, June 27, 2014, <https://www.bustle.com/articles/29655-indias-electric-shock-anti-rape-bra-society-harnessing-equipment-is-terrifying-and-necessary>.

²⁵ Ellie Hall, "Anti-Rape Underwear Will Shock Attackers and Send Distress Signal," *BuzzFeed News*, April 2, 2013, <https://www.buzzfeednews.com/article/ellievhall/anti-rape-underwear-will-shock-attackers-and-send-distress-s>.

²⁶ Isabel Wilkinson, "Anti-Rape Lingerie Creator Wants to Protect Women from Sexual Assault," *Daily Beast*, April 10, 2013, <https://www.thedailybeast.com/anti-rape-lingerie-creator-wants-to-protect-women-from-sexual-assault>.

²⁷ Ruchi Vaishnav, "MIT Student Manisha Mohan Develops Wearable Adhesive to Prevent Rape, Sexual Assault," *India Times*, July 27, 2017, <https://www.newsindiatimes.com/mit-student-manisha-mohan-develops-wearable-adhesive-to-prevent-rape-sexual-assault/>.

forcibly removed. In a 2018 TED Talk, one of three in which she participated, Mohan describes how she sought to design Intrepid to “act when a victim cannot, shout when a victim is silenced, and record the cries of the victim even when we choose to ignore it.”²⁸ Intrepid works in “active” and “passive” modes. In active mode, the wearer can tap the adhesive to send out a distress signal in real time to preselected family members, friends, or emergency services. This signal can take the form of a text message to designated recipients, or a recorded phone call if the recipient does not respond to the distress signal within 30 seconds. In passive mode, the device activates automatically if the wearer is incapacitated or unconscious and her clothing is removed.

Mohan is part of a growing network of activist-inventors who claim technology is the key to “empower” women socially and physically—a development that is becoming increasingly marketable under the broader rise of “smart” household security objects.²⁹ In January 2019, Market Research Future released an investment report speculating that between 2017 and 2023, the global market for smart safety technologies—broadly defined—is expected to grow by \$52 billion.³⁰ The report identified the major players in personal smart safety technologies, including well-known corporations such as General Electric and Ericsson that produce popular home electronics, as well as Revolar, a small, Latina-owned company that formed in 2015 to produce wearable panic buttons that “empower women to stay connected to friends, family, and contacts anytime, anywhere.”³¹

Like Mohan’s Intrepid, Revolar is one of many anti-rape technologies on the market

²⁸ Mohan, “How Technology Can Empower Silent #MeToo,” 4:15.

²⁹ “Smart” technologies are those that connect to the Internet or to other Internet-enabled devices to provide valuable functions to users.

³⁰ Market Research Future, “Smart Personal Safety and Security Device Market Research Report-Global Forecast To 2023,” 2019, <https://www.marketresearchfuture.com/reports/smart-personal-safety-security-device-market-1866>.

³¹ AR Wear, “AR Wear: Confidence & Protection That Can Be Worn,” *IndieGoGo*, October 27, 2013, <https://www.indiegogo.com/projects/ar-wear-confidence-protection-that-can-be-worn#/>.

created by independent designers that are intended to give women a sense of self-security from the pervasive threat of sexual violence. Take for example ROAR's AlwaysOn panic button for hotel staff. The product—developed by Yasmine Mustafa,³² a Kuwaiti immigrant and survivor-turned-inventor—is a networked smart wearable panic button that “empowers people to thrive” while they are “trying to earn a living wage.” Specifically designed for hotel maids and staff, AlwaysOn is described by Mustafa as being “powered by a patent-pending fail-safe technology to protect employees and promote well-being.”³³ Another popular product is the SipChip, a single-use test for detecting so-called “date-rape drugs” (drugs that incapacitate victims) in beverages. The SipChip is produced by the company Undercover Colors, whose founders, as undergraduate students in 2014, proposed but never made a controversial drug-detecting fingernail polish (wearers would dip polished fingernails into their drinks at bars and parties). The updated version of this technology is the SipChip, whose motto is “Science is one tool in our safety kit.”³⁴

While the popularity of these products has risen dramatically in recent years, the notion of anti-rape technology in the U.S. has existed since at least the 1970s, when inventors first began patenting wearable anti-rape technology to prevent assault and identify perpetrators.³⁵ In contrast to the discreet and miniature designs of contemporary products, the designs of first-wave technologies (1970–2010) were bulky and more physically invasive for the wearer. These defensive technologies took the forms of cut-proof or locking undergarments and weaponized female condoms with jagged “teeth” that would lock onto assailants’ bodies, serving as a mode

³² Mustafa, originally from Palestine, immigrated from Kuwait when she was eight years old, during the Gulf War. In 2016, she was recognized in the BBC's annual “100 Women” series that acknowledges the significant achievements of women around the world.

³³ ROAR for Good, “Home Page Banner 2,” accessed April 10, 2020, <https://www.roarforgood.com>.

³⁴ Undercover Colors, “Our Mission,” accessed April 10, 2020, <https://www.undercovercolors.com>.

³⁵ Renee Shelby, “Techno-Physical Feminism: Anti-Rape Technology, Gender, and Corporeal Surveillance,” *Feminist Media Studies* (2019): 1-22.

of “street justice” and a method of identification. As many of these “first wave” designs were intrusive or simply uncomfortable to wear, it is perhaps no surprise these early products were never commercial successes.

A more viable landscape for wearable anti-rape technology began to form only after 2010, driven by advances in smart technology, miniaturization, and a U.S. government call for inventors to apply smart technology to the problem of sexual violence. In general, “smart” technology refers to any electronic device that can connect to the Internet or to other devices, such as cellphones, watches, televisions, coffee makers, headphones, and lamps. The “Internet of Things” (IoT) is a term used to conceptualize this giant network of connected “things,” which includes networked relationships between people and people, between people and things, and between things and things. The vision driving the IoT is that anything that can be connected to the network, will be connected to the network. The first public use of the term IoT can be traced to Kevin Ashton, the executive director of Auto-ID Labs at MIT, who used the term to promote radio-frequency identification (RFID) technology in a 1999 presentation to Procter and Gamble.³⁶ However, the IoT concept did not gain popularity among the broader public until 2010, when the market research company Gartner added the Internet of Things to its emerging phenomenon list. Soon popular technology-focused magazines such as *Forbes*, *Fast Company*, and *WIRED* added the Internet of Things to their lexicon, and from there, the market for smart technology took off. In 2013, IDC, a major global marketing intelligence firm, forecasted the Internet of Things would be a \$8.9 trillion market by 2020, and just a year later, General Electric announced that it was earning over \$1 billion in global IoT-related revenue.³⁷

³⁶ However, as with first-wave anti-rape technology, a vision of “smart objects” existed long before the Internet did. For more on the history of the internet of things, see Kevin Foote, “A Brief History of the Internet of Things, *Dataversity*, accessed April 10, 2020, <https://www.dataversity.net/brief-history-internet-things/>.

³⁷ Business Wire, “The Internet of Things is Poised to Change Everything, Says IDC,” October 3, 2013,

In addition to advances in smart and smaller technology, the boom in rape-prevention products was further supported by two politically catalyzing moments. The first moment was in April 2011 when the U.S. Department of Education's Office for Civil Rights issued a "Dear Colleague" letter reminding high school and college campuses about the prevalence of sexual violence—including "rape, sexual assault, sexual battery, and sexual coercion"—and their responsibility to investigate such cases under Title IX.³⁸ While the Dear Colleague letter appealed to and mobilized advocates who were frustrated with the opacity of sexual violence investigations and the overwhelming lack of consequences for perpetrators on college campuses, the letter proved to be a legal controversy. Several conservative legal scholars wrote high-profile op-eds claiming the government's actions called on educational institutions to "lower their standards" of proof in sexual violence cases,³⁹ challenged due process,⁴⁰ and lessened the standard of presumed innocence.⁴¹ Though the backlash against the 2011 "Dear Colleague" letter frustrated advocates, it appeared to once again make clear the challenges anti-violence advocates faced in catalyzing social accountability through governance feminist approaches.

The second catalyzing moment occurred just three months later, when the White House

<https://www.businesswire.com/news/home/20131003005687/en/Internet-Things-Poised-Change-IDC>.

³⁸ "Dear Colleague" letters are a form of official correspondence sent by members of Congress to other members of Congress to encourage support, opposition, or co-sponsorship of a bill. Executive agencies in the Federal government have also used "Dear Colleague" letters to make statements on policy or to disseminate information. The Department of Education's Office for Civil Rights, for example, has used "Dear Colleague" letters to issue statements on interpretations of Title IX policy in regard to preventing the bullying of LGBT students (October 26, 2010), creating a supportive environment for transgender students (May 13, 2016), and investigating sexual violence (April 4, 2011). On September 22, 2017, under the guidance of Secretary of Education Betsy DeVos, the Office of Civil Rights issued a "Dear Colleague" letter withdrawing the policy statements and guidance provided in the April 2011 "Dear Colleague" Letter. This letter cited that the 2011 document interpreted Title IX to "impose new mandates" on how educational institutions address sexual misconduct in ways that deprive accused students of rights.

³⁹ Samantha Harris, "AP: Sexual Assault Claims on a Campus A 'Legal Minefield,'" *FIRE*, April 23, 2012, <https://www.thefire.org/ap-sexual-assault-claims-on-campus-a-legal-minefield/>.

⁴⁰ Christina HoffSommers, "In Making Campuses Safe for Women, a Travesty of Justice for Men," *The Chronicle of Higher Education*, June 5, 2011, <https://www.chronicle.com/article/In-MakingCampuses-Safe-for/127766>.

⁴¹ Peter Berkowitz, "College Rape Accusations and the Presumption of Male Guilt," *The Wall Street Journal*, August 20, 2011, <https://www.wsj.com/articles/SB10001424053111903596904576516232905230642>.

Office of Science and Technology Policy, in collaboration with Vice-President Joe Biden, Chief Technology Officer Aneesh Chopra, and Health and Human Services Secretary Kathleen Sebelius, launched a national “Apps Against Abuse” competition. The competition called upon software innovators in the American public to “harness the power of mobile technology to help prevent sexual assault,” placing a special emphasis on the need for mobile phone apps designed to support “young women in vulnerable circumstances.”⁴² In addition to providing a national rallying cry for anti-rape technology, the competition also provided a mechanism for the federal government to appeal to the goals anti-violence activists by promoting an intervention into the persistent problem of sexual assault and dating violence without invoking the law, public policy, or any other formal modes of regulation and governance. In November 2011, Biden and Sebelius announced the winning phone apps on a conference call with hundreds of college and university officials. The two winners were Circle of 6,⁴³ an app that bypasses law enforcement responses to connect victims or would-be victims of assault with their preselected support network; the other winner was On Watch,⁴⁴ an app that similarly connects users with their support network and also sends out victims’ GPS coordinates to that network in the event of danger. While functioning similarly to conventional SMS text messaging, these safety apps automate the communication process by messaging multiple people at once while also camouflaging the process so that users can discreetly signal for help. When announcing the winners of the competition to university officials, Vice-President Biden outlined the national effort to better respond to and end sexual violence on college campuses with the apps serving as the “new line of defense against

⁴² The White House, “Apps Against Abuse,” 2011, <https://obamawhitehouse.archives.gov/1is2many/apps-against-abuse>.

⁴³ Circle of 6 (circleof6app.com) was created by Nancy Schwartzman, an activist and documentary filmmaker funded by the Ford Foundation. Her latest documentary, *Roll Red Roll* (2018), examines rape culture in the context of the Steubenville, Ohio, gang-rape case—which occurred the same year as the Nirbhaya assault.

⁴⁴ On Watch was created by Alice Armitage, who is Director of Applied Innovation at the University of California, Hastings College of the Law.

violence.”

Since the Apps Against Abuse challenge, growing belief in the viability of rape prevention products has led to “venture capital”⁴⁵ investments in anti-rape technology start-ups, particularly rewarding those who produce hi-tech, discreet, and portable safety technologies. For example, ROAR, the maker of AlwaysOn, raised \$1.9 million in three rounds of private equity funding by the venture-capitalist firms ic@3401 and Ben Franklin Technology Partners of Southeast Pennsylvania.⁴⁶ And Undercover Colors—the company that makes the Sip Chip—raised \$8.2 million in just three rounds of venture capital funding.⁴⁷ This influx of investor dollars has propelled certain companies to the forefront of the anti-rape technology market, leading to increased news coverage and product placements that have generated previously unavailable market credibility. Consequently, the mobilizations of anti-rape technology have shifted from their humble “maker” beginnings to a high-profile and socially connected commercial network that enables the widespread production of these resistive technologies. For example, Circle of 6, formerly a start-up comprising just one inventor-activist, now has an advisory board that includes a former White House Chief Technology Officer, a sexual-health consultant at the United Nations, a former Ambassador to the United Nations Commission on Human Rights and current Presidential Appointee to the White House Council for Community Solutions, and a community liaison and board member of Chinatown Youth Initiatives.

⁴⁵ Venture capital is a form of private equity and a type of financing that investors provide to startup companies and small businesses that are believed to have long-term growth potential.

⁴⁶ See CrunchBase, “Roar For Good,” accessed April 10, 2020, <https://www.crunchbase.com/organization/roar#section-lists-featuring-this-company>.

⁴⁷ See CrunchBase, “Undercover Colors,” accessed April 10, 2020, <https://www.crunchbase.com/organization/undercover-colors#section-overview>. The funders of Undercover Colors chose to remain anonymous.

Feminist Critiques of Anti-Rape Technology: Rape Myths and “Cute” Rape Prevention

Perhaps unsurprisingly, the rapid commercial rise of anti-rape technology has caught the attention of some feminists, who criticize these products for appealing to tiresome gendered tropes. In particular, this counterpublic argues that the designs of anti-rape technologies prop up *rape myths*⁴⁸—which are prejudicial, stereotyped, or false beliefs about rape, rape victims, and rapists that serve to deny and justify men’s sexual aggression against women.⁴⁹ They argue these technologies bolster these myths by describing which types of situations are deemed dangerous, by falsely suggesting who is most likely to be a perpetrator, and by misidentifying what constitutes “vulnerable” and “safe” behaviors. In the 2019 article “The Anti-Rape Gadgets That Never Delivered,” technology writer Rae Paoletta of *Gizmodo* declares that “these products willfully ignore—or worse, play into—the widely debunked ‘stranger danger’ narrative surrounding sexual assault, especially when research suggests three of four rapes are committed by someone the victim knows.”⁵⁰

Outspoken members of the feminist blogosphere have likewise cast “cute” anti-rape technologies as yet another way to put the onus of rape prevention on *vulnerable* women. On May 30, 2014, *The Verge* published an editorial by journalist Adi Robertson about anti-rape technologies entitled “How to Look Cute and Not Get Raped.” The title caused such an uproar from the feminist blogosphere⁵¹ that *The Verge* issued a public apology and quickly changed the

⁴⁸ For more on rape myths, see Kimberly A. Lonsway and Louise F. Fitzgerald, “Rape Myths: In Review,” *Psychology of Women Quarterly* 18, no. 2 (1994): 133-164.

⁴⁹ Common rape myths include: “she asked for it”; “it wasn’t really rape”; “he didn’t mean to”; “she wanted it”; “she lied”; “rape is trivial”; “rape is a deviant event.”

⁵⁰ Rae Paoletta, “The Anti-Rape Gadgets That Never Delivered,” *Gizmodo*, September 19, 2017, <https://gizmodo.com/the-anti-rape-gadgets-that-never-delivered-1798322791>.

⁵¹ Kelly Faircloth, “The Problem with Cute Self-Defense Products for Women,” *Jezebel*, May 31, 2014, <https://jezebel.com/the-problem-with-cute-self-defense-products-for-women-1583955815>.

title to “Companies Are Using Fear to Market Lifestyle Accessories to Women: ‘Cute’ Anti-Sexual-Assault Tools Trivialize a Serious Issue.” Despite what many readers inferred from the title of the article, Robertson’s commentary actually critiqued “pink”⁵² self-defense commodities for individualizing and normalizing rape prevention. Regarding Undercover Colors’ date-rape drug-detecting fingernail polish—a product that was never actually sold—writer and renowned activist Lindy West wrote on Twitter, “How about women don’t have to wear a special nail polish and dunk their fingers in every cocktail to not get raped?”⁵³ Amidst this backlash from the blogosphere about the gendered format of the product as well as the chemical limitations of fingernail polish, the company abandoned the product in favor of the SipChip, a gender neutral litmus test that determines whether date-rape drugs have been dropped into drinks.

Scholarly criticisms have echoed such concerns circulating in the blogosphere. Media scholars Rena Bivens and Amy Hasinoff conducted an extensive analysis of 215 digital anti-rape smartphone apps and 807 of their features.⁵⁴ They argue that the vast majority of products reinforced one or both of these two rape myths: that sexual violence is most often perpetrated by strangers, or that potential victims are responsible for preventing sexual violence through personal vigilance and ongoing risk reduction. In a similar analysis of these products, sociologists Martha McCaughey and Jill Cermele suggest that although anti-rape safety apps seek to “empower” women, these apps paradoxically reify stereotypes of women as weak because they “construct women as physically and psychologically incapable of resistance.”⁵⁵ In

⁵² That is, “cute” or “feminine.”

⁵³ BBC, “#BBCTrending: Backlash Against Polish to Detect ‘Rape Drug,’” August 28, 2014, <https://www.bbc.com/news/blogs-trending-28958365>.

⁵⁴ Rena Bivens and Amy Hasinoff, “Rape: Is There an App for That? An Empirical Analysis of the Features of Anti-Rape Apps,” *Information, Communication & Society* 21, no. 8 (2018): 1059.

⁵⁵ Martha McCaughey and Jill Cermele, “Changing the Hidden Curriculum of Campus Rape Prevention and Education: Women’s Self-Defense as a Key Protective Factor for a Public Health Model of Prevention,” *Trauma, Violence, & Abuse* 18, no. 3 (2017): 248.

one of the few analyses of wearable and smart anti-rape technology, criminologists Gethin Rees and Deborah White contend that the sociopolitical discourses surrounding wearable anti-rape technology in the public sphere play into negative gender stereotypes by framing women as doubly vindictive and vulnerable.⁵⁶

Existing critiques offer valuable insight into how anti-rape products reinforce hegemonic beliefs about sexual violence and gendered vulnerability. However, within their analyses, these critiques fail to confront how interlocking systems of oppression shape the experiences and outcomes of using anti-rape technology. What is also lost in existing feminist criticisms is that within this imagining, anti-rape technology marks an explicit break from the approach of governance feminism. That is, intentors of anti-rape technologies prescribe that women's safety can be inclusively managed not through liberal regulation, but through a neoliberal model of consumption, gendered self-surveillance, and networked information technology. This framing—although weakened by being tethered to consumption—does, in fact, offer possibilities to think outside of the problematic elements of governance feminism.

In addition, they do not address a core facet of anti-rape technology mobilizations: that proponents imagine these products as benevolent and race-neutral technofixes to a cultural problem. A close reading of the product advertisements for “second-wave” anti-rape technologies reveals that inventors and proponents claim these products will usher in a new future of women's safety and empowerment thanks to the ways in which their products appealing to the strengths of the community and connecting women to resources outside the criminal justice system. Given how citizen-activists argue that these products are the necessary

⁵⁶ Gethin Rees and Deborah White, “Vindictive but Vulnerable: Paradoxical Representations of Women as Demonstrated in Internet Discourse Surrounding an Anti-Rape Technology,” *Women's Studies International Forum*, 35, no. 6 (2012): 426-431.

“prescription” to keep women safe, anti-rape technologies are better understood through the STS lens of a *sociotechnical imaginary*—a concept that helps reveal how, through normative claims about desirable futures, technology co-produces situated sociopolitical knowledge. By examining this imaginary as an action repertoire, we can better see which discourses inventors use to narrate vulnerability, whose interests are served in their articulations, and, consequently, which women, are most likely to be served by these political formations.

Sociotechnical Imaginaries and the Co-Production of Social Order

STS scholars Sheila Jasanoff and Sang-Hyun Kim define *sociotechnical imaginaries* as the collectively held and publicly performed ideas, beliefs, and visions about how technology can produce a *desirable future*.⁵⁷ The *desirable futures* of sociotechnical imaginaries are grounded in the dominant belief that technology orders chaos and brings about steady, positive change. In line with the core commitments of STS, feminist scholar Maureen McNeil and her colleagues argue that sociotechnical imaginaries further expose how the materiality of science and technology are not merely the domains of “facts” and “artifacts” but are “associated with storytelling, imaging, and imagining.”⁵⁸ In other words, sociotechnical imaginaries “reside in the reservoir of norms and discourse” yet explicitly engage with the materiality of discursive claims made by state and non-state actors—including inventors, companies, and corporations.⁵⁹ A close examination of these discursive claims reveals how different publics actively construct

⁵⁷ See Jasanoff and Kim, “Containing the Atom.” Jasanoff and Kim distinguish sociotechnical imaginaries from their antecedents of “technoscientific imaginaries” in which the imaginations of science and technology professionals include the assumptions about science that give science its moral and epistemic authority.

⁵⁸ Maureen McNeil, Michael Arribas-Ayllon, Joan Haran, Adrian Mackenzie, and Richard Tutton, “Conceptualizing Imaginaries of Science, Technology, and Society,” in *The Handbook of Science and Technology Studies*, eds., Ulrike Felt, Rayvon Fouché, Laurel Smith-Doerr, and Clark A. Miller (Boston: The MIT Press, 2016), 457.

⁵⁹ Jasanoff and Kim, “Containing the Atom,” 123.

sociotechnical imaginaries by identifying certain social risks and imagining how technology can mitigate these risks.

Sociotechnical imaginaries were first applied to theorize the relationship of science and technology to formal political power, regulation, and governance, and were originally conceived to better understand how nation-states imagine their technological futures.⁶⁰ STS scholars have since expanded their analysis to identify a broader constellation of social actors who create and perform sociotechnical imaginaries, including charitable foundations,⁶¹ environmental nongovernmental organizations,⁶² and expert medical bodies and domains.⁶³ In doing so, analyses of sociotechnical imaginaries engage with the complex topographies of power and dominant cultural values that intersect with science and technology. Methodologically, the use of “sociotechnical imaginaries” offered an important intervention in STS analyses of knowledge-making processes, as the application of this concept explicitly acknowledges the turbulent and culturally situated histories that render certain forms of sociopolitical and technoscientific projects desirable. This conceptualization stands in contrast to another popular STS methodology, Actor-Network Theory,⁶⁴ which some have argued provides a politically flat account of knowledge-producing systems—one that fails to account for power imbalances among various actors, both human and nonhuman.⁶⁵ Thus, analyses of sociotechnical

⁶⁰ Ibid.

⁶¹ Elta Smith, “Imaginaries of Development: The Rockefeller Foundation and Rice Research,” *Science as Culture* 18, no. 4 (2009): 461-482.

⁶² Les Levidow, “EU Criteria for Sustainable Biofuels: Accounting for Carbon, Depoliticising Plunder,” *Geoforum* 44 (2013): 211-223.

⁶³ Martyn Pickersgill, “Connecting Neuroscience and Law: Anticipatory Discourse and the Role of Sociotechnical Imaginaries,” *New Genetics and Society* 30, no. 1 (2011): 27-40.

⁶⁴ Actor-network theory is a theoretical framework and methodology to examine the production of science and technology that counters the conventional hero narrative of technoscientific achievements. Originally created by Michel Callon, “Some Elements of a Sociology of Translation” and Bruno Latour, *Science in Action*, actor-network theory encourages analysis of all the surrounding factors, including both the human and nonhuman actors, that facilitate the production of science and technology.

⁶⁵ See for example, Thomas Bender and Ignacio Fariás, “Reassembling the City: Networks and Urban Imaginaries,” in *Urban Assemblages: How Actor-Network Theory Changes Urban Studies*, eds., Ignacio Fariás and

imaginaries address both the more rigid *structure* of technological, organizational, political, and cultural systems, and the more fluid elements involved as individuals use their *agency* in negotiating these structures to envision alternative ways of living and relating.⁶⁶

In line with feminist STS concerns over how the formation of human/machine boundaries shape social relations, sociotechnical imaginaries are foregrounded by and bring specificity to the STS concept of *co-production*—referring to how the ways in which “we know” and represent the world are inseparable from the ways “we choose to live in it.”⁶⁷ As such, sociotechnical imaginaries are most likely to be evidenced in the key moments of co-production: emergence and stabilization,⁶⁸ controversy,⁶⁹ intelligibility and portability,⁷⁰ and enculturation.⁷¹ That is, existing scholarly efforts to disentangle sociotechnical imaginaries frequently expose how differently situated actors use technology to reshape their own identities, the identities of others, and their social environments outside of formal political contexts and seemingly beyond the state.

While the appeal to mobilize technology in addressing social problems like sexual

Thomas Bender (Milton Park, UK: Taylor and Francis, 2010), 303-323.

⁶⁶ Compared with other social science concepts on collective beliefs, sociotechnical imaginaries are likewise distinctive. Whereas *discourse* focuses primarily on language, it lacks the prescriptive aspects of sociotechnical imaginaries. *Ideologies* are more attuned to power and social structure than sociotechnical imaginaries but are also more static and less attuned to undertones of reaching and striving that sociotechnical imaginaries embody. And *master narratives*, while close in concept, are more rigid and unchanging than sociotechnical imaginaries.

⁶⁷ Jasanoff, *States of Knowledge*, 2-3.

⁶⁸ *Emergence and stabilization* refer to how people recognize, name, and assign meaning to new objects. For more scholarship on emergence and stabilization, see Lorraine Daston’s *Biographies of Scientific Objects* (2000), Andrew Pickering’s *The Mangle of Practice: Time, Agency, and Science* (1995), or Bruno Latour’s *The Politics of Explanation: An Alternative* (1988).

⁶⁹ Practices of *controversy* are the mechanisms through which one set of ideas gains dominance over competing ideas. Seminal STS scholarship on controversy includes Steven Shapin and Simon Schaffer’s *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (2011), and Harry Collins’s *Changing Order: Replication and Induction in Scientific Practice* (1992).

⁷⁰ *Intelligibility and portability* refer to how technoscientific paradigms become legible and travel across places and time. For more scholarship on intelligibility and portability, see Thomas Kuhn’s *The Structure of Scientific Revolutions*, Geoffrey C. Bowker and Susan Leigh Star’s *Sorting Things Out: Classification and Its Consequences* (2000), and Bruno Latour’s *Science in Action* (1987).

⁷¹ *Enculturation* refers to how the so-called universality of technoscientific practices are grounded in situated, cultural practices. See Karin Knorr-Cetina’s *Epistemic Cultures: How the Sciences Make Knowledge* (1999), Paul Rabinow’s *French DNA: Trouble in Purgatory* (2002), and Sharon Traweek’s *Beamtimes and Lifetimes: The World of High Energy Physicists* (2009).

violence carries utopian imaginings, these processes are always embedded in particular power relations. In a study of corporate imaginaries, Elta Smith analyzes the way that the Syngenta Corporation's "humanitarian contract" for Golden Rice articulates the company's private economic interests through the language of "corporate social responsibility."⁷² Smith shows how the patented bioengineered product, Golden Rice, promises to deliver nutrients to at-risk bodies, all the while still bearing the neoliberal ideologies of ownership and private property which ultimately benefited Golden Rice's bottom line. In their study of corporate narratives and "the smart city imaginary," Jathan Sadowski and Roy Bendor expose how technology giants IBM and Cisco used the narratives of urban crisis and technological salvation to construct the "smart city" concept that mobilized local governments across the United States to adopt their own carefully crafted "smart city" practices such as a citywide Internet of Things.⁷³ In a study of literary and technological visions of a wireless future, Jennifer Lieberman and Ronald Kline examine the ways nineteenth-century and early twentieth-century writers and inventors—including Charlotte Perkins Gilman and Nikola Tesla—used fiction writing to spark a utopian vision of electricity as a form of progressive power for the vulnerable public, which helped to normalize the concept of in-home electricity.⁷⁴ In their analysis of radio frequency tagging (RFID), Ulrike Felt and Susanne Öchsner reveal how fast-fashion companies publicly emphasize their use of RFID tagging on goods in order to control conversations about social responsibility by focusing attention on the value of perfect sociotechnical efficiency.⁷⁵ In doing so, fast-fashion companies

⁷² Smith, "Imaginarities of Development."

⁷³ Jathan Sadowski and Roy Bendor, "Selling Smartness: Corporate Narratives and the Smart City as a Sociotechnical Imaginary," *Science, Technology, & Human Values* 44, no. 3 (2019): 540-563.

⁷⁴ Jennifer Lieberman and Ronald Kline, "Dream of an Unfettered Electrical Future: Nikola Tesla, The Electrical Utopian Novel, and an Alternative American Sociotechnical Imaginary," *Configurations* 25, no. 1 (2017): 1-27.

⁷⁵ Ulrike Felt and Susanne Öchsner, "Reordering the "World of Things:" The Sociotechnical Imaginary of RFID Tagging and New Geographies of Responsibility," *Science and Engineering Ethics* 25, No. 5 (2019): 1425-1446.

confine questions of social responsibility to the labor relations which happen on the factory floor. Taken together this growing body of scholarship on sociotechnical imaginaries created by nonstate actors is useful in revealing the messy and complex ways science and technology remain material sites to “perform” and render visible discursive sociopolitical beliefs outside the boundaries of formal regulation and governance. This scholarship also reveals that some publics are always already better positioned to create and take advantage of their uses and narration of technologies.

As previously noted, the first part of this chapter traced the emergence of “second-wave” anti-rape technology and the sociopolitical backdrop that helped create a viable market for these products. In the remainder of this chapter, I examine how the inventors of popular anti-rape products construct a sociotechnical imaginary that contributes to the formation, stabilization, and legitimization of rape prevention solutions outside of the law and the criminal justice system—the dominant and punitive-focused paradigm for responding to sexual violence. While this sociotechnical imaginary co-produces notions of justice beyond the often-unsympathetic reach of the law, these promising strategies for social change remain embedded in complex assemblage of social relations that inventors have yet to fully confront.

Identifying Popular Anti-Rape Products: Notes on Data and Method

To understand how inventors construct technology as the future of rape prevention, I analyzed a large corpus of material on popular anti-rape products. It consists of the actual, physical products as well as primary-source Internet materials including product websites and advertisements, TV product placements, technology news coverage and blogs, and interviews with inventors, created between 2010 and 2019. In an attempt to be complete, I used targeted web searches, relied on the

Internet Archive⁷⁶ to recover websites and articles that were changed,⁷⁷ and used Google Alerts to receive notifications of new products and online content.⁷⁸ While multiple Google Alerts⁷⁹ would often refer to the same product, this duplication was useful in constructing a collection of anti-rape products that have an active e-commerce presence and are popular enough to capture the attention of technology trade journals, bloggers, and news organizations.⁸⁰

This process clarified the major players in the anti-rape technology market: Invi Bracelet, Intrepid, KnoNap, Nimb Ring, ROAR, Revolar, and Undercover Colors. These companies receive frequent or major news coverage and have a strong market presence Tables 2.1 and 2.2 provide background information on the founder-inventors and the companies.⁸¹ Figure 2.1 shows available quarterly revenue for five of the seven major anti-rape technologies. As these are private rather than public companies, it is important to note that finding comprehensive sales data was a challenge, although I was able to assemble some data.⁸² Nonetheless, the extent of media coverage suggests these are among the most visible anti-rape products currently available and thus are important to examine.

⁷⁶ The Internet Archive's "Wayback Machine" allows archives of the World Wide Web to be publicly accessible. The Wayback Machine has archived billions of pages dating to as early as 1996.

⁷⁷ E.g., Sadowski and Bendor, "Selling Smartness."

⁷⁸ E.g., White and McMillan, "Innovating the Problem Away? A Critical Study of Anti-Rape Technology," *Violence Against Women*, <https://doi.org/10.1177/1077801219856115>.

⁷⁹ I used Google Alerts for the following eight terms: (1) sexual violence; (2) sexual violence technology; (3) anti-rape technology; (4) anti-rape device; (5) sexual assault technology; (6) rape-prevention technology; (7) rape and technology; (8) technology and #MeToo. The Google Alerts were used from January 2016 through December 2019. The alerts produced descriptive content for technology trade journals (e.g., *Forbes* and *Wired*), popular blogs (e.g., *Huffington Post* and *Vice*), and news organizations (e.g., *Washington Post* and the Associated Press).

⁸⁰ As I was looking specifically at technology whose sole purpose is to serve as anti-rape technology, I excluded products that are smartphone apps, such as Circle of Six, because these apps are a form of specialty texting software available solely on a smartphone and do not greatly change the existing function of a smartphone.

⁸¹ When discussing the concepts in this chapter at scholarly conferences and with gender-violence researchers in the community, the most frequent question I receive is "Who makes these objects?" People are often surprised to learn that the majority of these companies were created by women (Revolar, KnoNap, ROAR), or by first-generation U.S. immigrants (ROAR, Undercover Colors), or by inventors who self-identify as racial or ethnic minorities in the U.S. context (Revolar, KnoNap, Intrepid) (see Table 2.1). The Nimb Ring, Invi Bracelet, and Undercover Colors are the only products discussed here that are not made by companies with all-women founders.

⁸² All companies are start-ups, and some do not yet appear in business analytic databases, e.g. Dunn and Bradstreet.

After gathering the corpus of material on these companies, each document was closely read, memoed, and coded for themes and concepts.⁸³ Once the coding system was established, I iteratively revisited the content and product websites to ensure useful data was not overlooked. Through this process, I discovered the narrative content on product websites would remain stable while the visual imagery often fluctuated—especially the portrayals of imagined product users, which frequently changed in terms of age, race, and presumed social class. Given these fluctuations, I relied on the Internet Archive to document how product websites were changed.⁸⁴ While the overall trend in product imagery seemed to move in a more inclusive direction, with photos displaying a greater diversity of people (e.g., age and skin color), the frequency with which these images changed raises concerns about accurately assessing the company’s mission through the use of photography. As the narrative content remained stable, I focused primarily on this aspect in my investigation of how anti-rape companies imagine the significance of their technologies. Through this process it became evident that these materials are not just instances of product marketing, they detail the characteristics of the future anti-rape inventors hope to build. In short, these seven companies tell a story about injustice and the technological rescue of vulnerable women.

⁸³ Anselm Strauss and Juliet Corbin, *Basics of Qualitative Research Techniques* (Thousand Oaks: Sage publications, 1998).

⁸⁴ While it is not possible to pinpoint the exact reasons for changing imagery without talking to the website content managers, as these companies are start-ups, it seems plausible that they do not have substantial branding budgets. Using Google Chrome’s “Inspect” feature, I identified that all seven of the product websites used stock design templates from drag-and-drop website platforms, such as Shopify (Undercover Colors and Revolar), HubSpot (ROAR), WordPress (Invi, Nimb Ring), Wix (Intrepid), and Squarespace (KnoNap). These platforms are intended to provide an all-in-one website builder, complete with pre-art-directed website templates, stock photography, and web hosting. The purpose behind changing the imagery could be that the inventors are simply adjusting their templates to be more aesthetically pleasing to themselves or to their anticipated audiences.

TABLE 2.1 Second-wave anti-rape technologies and inventor backgrounds

Anti-Rape Technology	Technology's Safety Design	Product Website	Inventor-Founder	Inventor-Founder's Gender	Founder Self-Identified Race/Ethnicity or Country of Origin	Stated Reason for Developing Product
Invi Bracelet	Bracelet that releases a strong odor	invi.world	Roel van der Kamp	Man	The Netherlands	An active anti-violence advocate responding to the prevalence of rape
Intrepid	Stick-on wearable that can shock assailants	manishamohan.com/	Manisha Mohan	Woman	Indian	The Nirbhaya assault
KnoNap	Date-rape drug-detecting cocktail napkin	knonap.com	Danya Sherman	Woman	American	Personal drug-facilitated rape
Nimb Ring	GPS-connected smart ring with a panic button	nimb.com	Leo Bereschansky and Nikita Marshansky	Men	Russian American	Bereschansky's girlfriend was stalked, raped, and attacked in front of a police station
ROAR	GPS-connected safety alarm	roarforgood.com	Yasmine Mustafa	Woman	Kuwaiti American	When living in Spain her neighbor was assaulted and beaten
Revolar	GPS-connected safety alarm	revolar.com	Jacqueline Ros and Andrea Perdomo	Women	Hispanic American	Ros's sister was attacked twice before age 17
Undercover Colors	Portable date-rape drug-detecting test	undercovercolors.com	Ankesh Madan, Stephen Gray, Tyler Confrey-Maloney, and Tasso von Windheim	Men	Thai American, American, American, and Canadian American	The prevalence of rape

TABLE 2.2 Second-wave anti-rape company backgrounds and business analysis

Anti-Rape Technology	Year Company Created	Founder Status at Time of Product Creation	Funding Sources	Available at Big Box Retailers?	Is There a Parent Company?	Estimated Annual Revenue Data Publicly Available	Number of Employees as of Q4 of 2019
Invi Bracelet	2018	Graduate student at Erasmus University	Student loan money; independent investors	No	No	No	N/A
Intrepid	2017	Graduate student at MIT	University funding	No	No	No	N/A
KnoNap	2018	Undergraduate student at George Washington University	University pitch contest; Halcyon Incubator	No	No	Yes	24
Nimb Ring	2014	Engineers	Kickstarter; EU grant	No	No	Yes	45
ROAR	2014	Entrepreneur	IndieGoGo campaign; two rounds of seed funding	No	No	Yes	12
Revolar	2014	Grade schoolteachers	Kickstarter campaign; two start-up accelerator rounds; university pitch contest; Colorado state government grant	Yes, as of May 2017	Yes, Otter Box as of 2017	Yes	74
Undercover Colors	2014	Students at North Carolina State	University entrepreneur competition	No	No	Yes	144

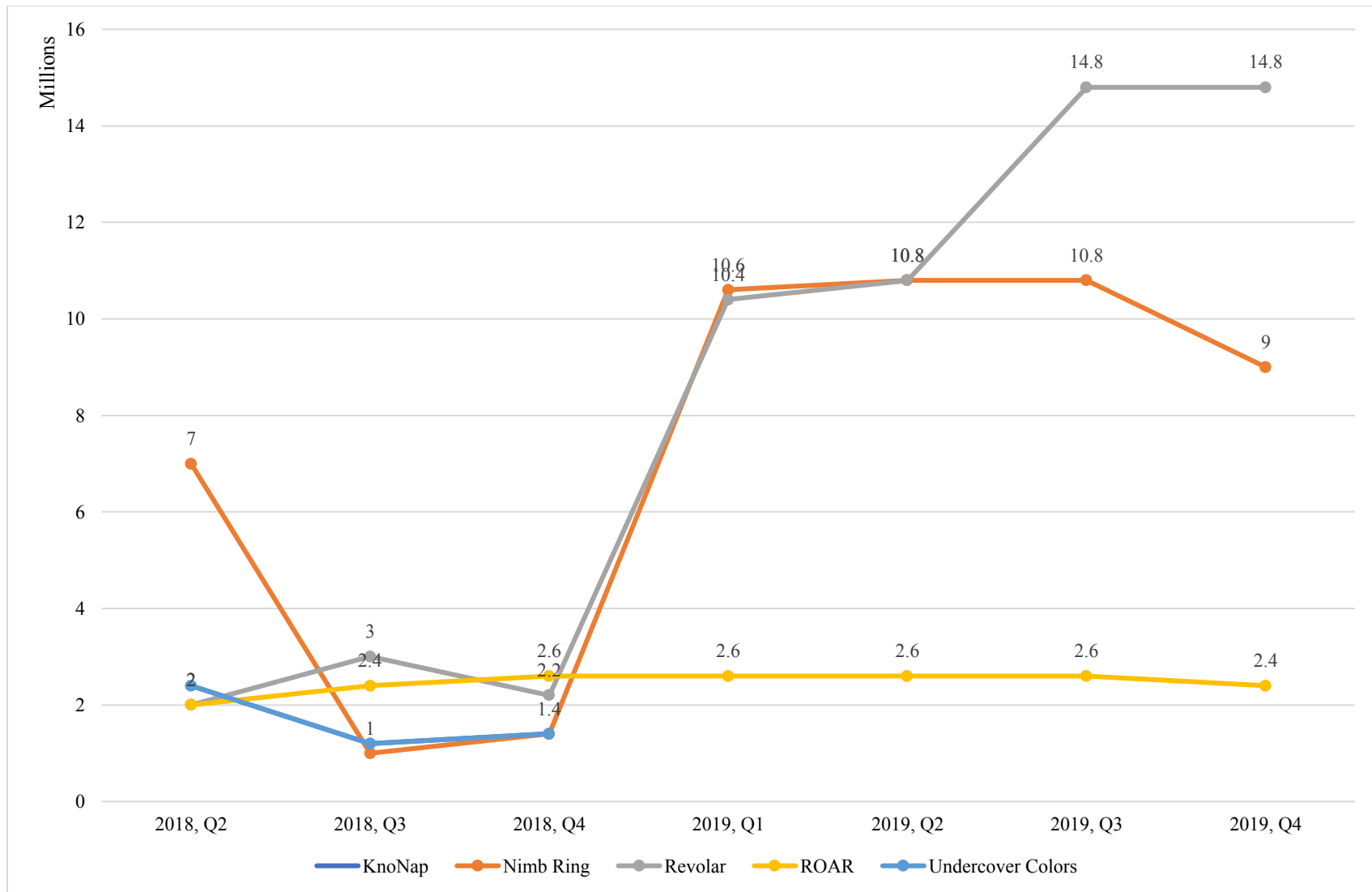


FIGURE 2.1 Available quarterly revenue earnings for anti-rape technology companies. Source. ZoomInfo.

Narrating a Vision of Technology in a Rape Free Future

The inventors and proponents of popular anti-rape products offer a vision of technology-driven rape prevention that departs from the dominant paradigm of governance feminism and the reliance on carceral logics. Anti-rape companies articulate this vision by narrating a story about the relationship between sexual violence vulnerability, technoscience, and social change by:

1. Constructing sexual violence risk and narrating gender-based vulnerability;
2. Emphasizing the technological and entrepreneurial expertise of inventors and their tacit knowledge and standpoints;
3. Prescribing anti-rape technology as a techno-fix to women's vulnerability that will catalyze structural change.

The way that anti-rape companies imagine the utility of their products is grounded in an *inclusion through technology* approach—that is, designers position these products as a safety solution effective for all women, regardless of social location and without attention to racialization and class hierarchy. This approach signals a willingness to allow a single-axis framing of vulnerability to guide technological thinking, and reveals how in recasting sexual violence as a single faceted problem grounded in inequitable gender relations, the complex problem of sexual violence becomes much easier to resolve through simple techno-fixes. I examine each theme of the imaginary, paying particular attention to the presence and absence of discussions regarding race, gender, and class hierarchies.

Constructing Risk and Narrating Gender-Based Vulnerability

The story of the anti-rape technology imaginary begins by establishing women's ongoing vulnerability to sexual violence as a severe and persistent threat, and by condemning the

institution charged to manage sexual violence risk—the criminal justice system—as an uncertain and limiting solution to this threat. That is, inventors construct a gendered narrative of the legitimate threat of sexual violence that suggests a mistrust of carceral logics, thus warranting a consumer-controlled and technological solution.

In presenting this narrative, inventors communicate and quantify sexual violence risk by citing and linking to prevalence data from public health researchers and prominent advocacy bodies. However, inventors are selective in their citational practices—choosing statistics that emphasize gender-based vulnerability, even when the data they cite includes information on intersecting vulnerabilities. For example, ROAR, a company that produces the AlwaysOn panic button for hotel staff and the Athena for everyday use, constructs vulnerability on their website through four statistics centering gender identity citing that: “37% of women say they do not like walking home late at night; 65% of women have experienced street harassment; 1 in 4 college women will be sexually assaulted; and 1 in 3 women experience violence from their intimate partners in their lifetime.”²⁰² Although ROAR includes a link to research that specifically details the sexual violence experiences of Native Americans, Latinas, queer Black women, and Asian Americans and discusses how race and sexual orientation comprise layers that increase one’s vulnerability to violence,²⁰³ the company’s public-facing narrative remains race- and sexuality-neutral.

When anti-rape companies do narrate intersecting power relations as a factor in sexual violence risk, they focus on age or student status. On the website for the KnoNap, a cocktail napkin capable of detecting 26 of the 40 most common date-rape drugs, visitors encounter three

²⁰² ROAR for Good, “The Problem,” accessed May 30, 2019, roar-for-good.myshopify.com/pages/our-story#theproblem.

²⁰³ Stop Street Harassment, “National Studies,” accessed April 10, 2020, stopstreetharassment.org/our-work/nationalstudy.

statistics—“1 in 1,” “1 in 13,” and “1 in 33”—followed by this explanation: “1 in 3 women experience some form of sexual violence throughout their lifetime. 1 out of every 13 college aged individuals suspect having had a drink laced with a drug. 1 in 33 men experience some form of sexual violence throughout their lifetime. We are more than just a statistic.”²⁰⁴ The cited statistics link to public-health fact sheets detailing how women in low-wealth communities or racial, ethnic, and sexual minorities are more likely to be one of the “1 in 3”; however, on the landing page, KnoNap keeps the focus on gender identity. Undercover Colors, who also produces the SipChip date-rape drug test,²⁰⁵ participates in similar citational politics in their framing of vulnerability. Accompanying the website headline, “Protect yourself or someone you love,” are three statistics: “7.6 percent of college students have been drugged or suspected that they were drugged. 1 in 6 American women has been the victim of a rape or attempted rape in her lifetime. 11.2 percent of all college students experience rape or sexual assault through physical force, violence, or incapacitation.”

The strategy to selectively communicate risk primarily and narrowly in terms of gender is intentional, as the data anti-rape companies cite clearly and prominently specifies that people on the economic, racial, and sexual margins are most vulnerable. Most anti-rape companies cite statistics from RAINN, whose analyses draw on data collected in the U.S. National Crime Victimization Survey (NCVS). RAINN’s website communicates how race and class overdetermines sexual violence risk, such as showing that Native Americans are twice as likely as any other ethnic group in the United States to experience a rape or sexual assault, and that women who live in households with annual incomes of less than \$7,500 are 12 times more likely to experience sexual violence than those whose annual incomes are more than more than

²⁰⁴ KnoNap, “Home Page Banner 5,” accessed April 10, 2020, <https://www.knonap.com>.

²⁰⁵ Undercover Colors, “Home Page Banner 4,” accessed April 10, 2020, <https://www.undercovercolors.com>.

\$7,500.²⁰⁶ Similarly the research that KnoNap and Undercover Colors cite on college students discusses hierarchies in vulnerability based on cis- and trans-gender identity, noting that 21% of TGQN (transgender, genderqueer, nonconforming) college students have been sexually assaulted, compared to 18% of non-TGQN females and 4% of non-TGQN males.²⁰⁷ In centering gender identity, anti-rape technology companies can presumably construct the widest possible customer base. However, in doing so, the story of the anti-rape product imaginary—as an action repertoire—misses numerous opportunities to communicate, foster, and mobilize transformative ways of thinking about how gender-based vulnerability is connected to other social justice struggles in regard to sexual violence, such as racial and economic justice, LGBTQ+ equality, and transjustice.

Within the imaginary, efforts to define sexual violence risk is a diagnostic framing of the failure of existing social relationships, express mistrust, and assign blame.²⁰⁸ As in the construction of interpersonal risk, inventors are selective in which social relationships they blame and mistrust, highlighting that inadequate criminal justice responses contribute to women’s vulnerability. Through anecdotes and tacit knowledge claims, the criminal justice system becomes a foil for communicating the utility of their products. In his 2016 Indiegogo campaign, Leo Bereschansky, creator of the Nimb Ring, a GPS-connected smart ring that sends out emergency alerts to preselected contacts, explained that he came up with the idea for the ring after his friend Kathy Roma was sexually assaulted and stabbed near a police station. The

²⁰⁶ RAINN, “Victims of Sexual Violence: Statistics,” accessed April 10, 2020, <https://www.rainn.org/statistics/victims-sexual-violence>.

²⁰⁷ These websites reference the research of David Cantor, Bonnie Fisher, Susan Helen Chibnall, Reanne Townsend, Hyunshik Lee, Gail Thomas, Carol Bruce, “Report on the AAU campus climate survey on sexual assault and sexual misconduct” (Westat, 2015), 13.

²⁰⁸ Within social movement studies, diagnostic framing is the articulation of problems and injustices. See: Robert D. Benford, and David A. Snow. “Framing Processes and Social Movements: An Overview and Assessment.” *Annual Review of Sociology*, 26 (2000): 615.

campaign includes a testimonial by Kathy—who now works for the company—and describes how the smart ring directs women to safety resources outside the criminal justice system, emphasizing that “we believe that society is ready to provide its members with peer-to-peer help even in extreme situations.”²⁰⁹

To further articulate the waning credibility of the legal system in managing sexual violence risk, proponents of anti-rape technology point out that even when police investigate cases, the logic of rape law requires proving *lack of consent*, thus creating fundamental challenges in prosecuting perpetrators. In a 2018 *Forbes* article, technology journalist Julian Vigo details problems with the legal system and argues that the affordance brought by a technological “silent witness” will help women. He asserts:

The way that rape cases are handled, due to the difficulty in proving lack of consent where there are no physical marks on the body, means that rape is one of the toughest crimes to prove and then to convict. . . . In the absence of better prosecutorial measures or the presence of a witness (which with this type of crime is rare), technology offers victims a video witness to the crime or even the possibility of frightening away the would-be rapist. Women are in a terrible situation today with male violence resulting in a precarious public presence.²¹⁰

Similarly, Revolar positions technology as a reliable mode of risk management to the challenging sociolegal landscape that negatively shapes experience of reporting sexual violence. In a blog entry entitled, “End Victim Blaming,” co-founder Jacqueline Ros writes:

In the U.S., we can prove 1 in 4 women and 1 in 7 men report sexual violence within their lifetimes. According to RAINN, 68 percent of sexual assaults are never reported. Why? There are many reasons. Victims already know their attackers in 4 out of 5 cases and they fear that no one will believe them. Women and men who try to report their assaults are put through a legal ringer that is emotionally exhausting. Often, they are made to feel ashamed as if they did something wrong. And despite having the courage to stand up to their attackers, victims only see 3 percent of rapists go to jail. . . . Revolar will play a huge role in empowering individuals to stand against the odds by helping those

²⁰⁹ Leo Bereschansky, “Nimb: Smart Ring That Helps You Feel Safe and Sound,” *IndieGoGo*, September 7, 2016, <https://www.indiegogo.com/projects/nimb-smart-ring-that-helps-you-feel-safe-sound#/updates/all>.

²¹⁰ Julian Vigo, “Tight Jeans, Rape, and Technology,” *Forbes*, July 22, 2018, <https://www.forbes.com/sites/julianvigo/2018/07/22/tight-jeans-rape-and-technology/#5f21c8a76d9f>.

who feel vulnerable have their voices heard. Our first product is a small, discreet wearable device that lets your loved ones know you need their help and sends them your live location—at the touch of a button.²¹¹

In these framings, the imaginary challenges the governance feminist approach of instantiating feminist ideas into state power and instead frame personal technology as an effective risk management strategy. In keeping the discursive emphasis on gender-based vulnerability, the anti-rape product imaginary minimizes the extent to which experiences in the legal system are overdetermined by race. Ironically, these products do offer a path outside of this racist and homophobic structure, and while inventors do not make this connection explicit in their advertising, consumers seemingly recognize this possibility in spite of inventors' framings. In a 2017 interview with *Forbes*, Yasmine Mustafa describes how ROAR has seen a new market emerge within the social turmoil of the Donald J. Trump presidency, explaining that “since the election, there have been a lot of Muslim women, and people who are LGBT, and people of color, who’ve been reaching out to try to get the device as soon as possible out of concern [about] street harassment.”²¹²

*Emphasizing Inventors' Technological and Entrepreneurial Expertise
and their Tacit Knowledge and Standpoints*

As knowledge workers in the imaginary, inventors use *expertise* to shore up the legitimacy of the anti-rape technology market by narrating how these products are integrated into the machine of credible scientific knowledge production. Inventors express a classical conception of technoscientific expertise, demonstrated through statements about their entrepreneurial and elite “maker” identities that enable them to develop these objects and bring them to market. This

²¹¹ Revolar, “End Victim Blaming,” April 21, 2018, <https://revolar.com/blogs/news/end-victim-blaming>.

expressed expertise includes the inventors' stance as objective knowers, as demonstrated through declarations about their use of the scientific method. Perhaps paradoxically, however, in interviews, inventors take care to express their subjectivity as racial, gendered, and/or ethnic outsiders and call attention to how this socially situated knowledge enhances their efforts to address vulnerability. This amplification of their personal social location stands in stark contrast to the lack of intersectionality expressed on their product websites—an absence which is plausibly attributed to either their efforts to construct the widest possible consumer base or to their related perception that highlighting the vulnerabilities of subordinated women would limit the marketability of their products.

To emphasize the elite maker identities of inventors, anti-rape companies foreground the expertise of their inventors through statements about their personal ties to academic institutions. A quick Google search of Manisha Mohan shows that the headline of nearly any article about her inventions contains a statement about her prestigious status as an MIT-trained graduate student. The KnoNap advertisements emphasize Danya Sherman's connection to George Washington University and provides a lengthy list of well-known businesses and prestigious technology organizations that have backed the product.²¹³ On the SipChip website, the "About" portion leads with the statement, "SipChip™ was created by the Undercover Colors' team of scientists with more than 60 years of knowledge in lateral flow technology."²¹⁴ The Invi Bracelet website simply offers the headline: "Invi smell academically researched and works," followed by a clarifying statement on how Roel van der Kamp, the inventor of the bracelet, teamed up with Dr. Charmaine Borg, a psychologist at the University of Groningen, to research the effectiveness of

²¹³ These businesses include Toyota, Ford, Allstate Insurance, Ernst and Young, the Halcyon Incubator and the Kairos Fellowship for civic tech leaders of color.

²¹⁴ Undercover Colors, "About Us," accessed April 10, 2020, <https://www.undercovercolors.com/pages/about-us>.

the technology. The website notes that Dr. Borg is an expert in the relationship between sexual arousal and disgust and provides a link to her peer-reviewed research on the product.²¹⁵

The imaginary makes clear that their anti-rape products rest on credible science practices that enroll women and women's interests in the design process. Within the imaginary, inventors narrate how they "solved" the problem of women's safety through empirical technoscience. On her website, Yasmine Mustafa of ROAR details how her team used qualitative techniques to determine the design for their wearable alarm. She states:

We found that women don't like the self-defense tools that are out there. They're too hard to use. [Women are] afraid they'll use them against themselves. They don't want to be in hand-to-hand combat in the first place. Common self-defense mechanisms like pepper spray and Tasers also have one glaring user experience problem: You need to pull them out of your pocket or purse, something that's not always convenient in the heat of a tense, unexpected encounter. We thought, what if we could make them wearable?²¹⁶

On the ROAR website, the company also reiterates that their panic buttons are "backed by science," with 34 months of extensive research and product development, 12 personal defense instructors and police officers interviewed, and 557 Athena device users tested.²¹⁷ Similarly, Manisha Mohan describes how she developed Intrepid by analyzing data from survivors and designing a study to gather feedback from 338 online participants and 20 users to "understand the real-world feasibility" of the product.²¹⁸ She explains that participants contributed to the design by "evaluating the clothing's appeal, functionality, cultural sensitivity, and provided feedback on their general sense of security wearing the smart clothing."²¹⁹ Mohan emphasizes that systematically testing these inventions in the real world is necessary to make the product

²¹⁵ Invi.world, "The Smell of the Invi Bracelet Decreases Sexual Arousal," accessed April 10, 2020, <https://invi.world/smell-research/>.

²¹⁶ John Titlow, "Can Wearable Tech Combat Sexual Assault?" *Fast Company*, June 10, 2015, <https://www.fastcompany.com/3047151/can-wearable-tech-combat-sexual-assault>.

²¹⁷ ROAR For Good, "Our Story," accessed April 10, 2020, <http://www.roarforgood.com/story/>.

²¹⁸ Manisha Mohan, "Intrepid," accessed April 10, 2020, <https://www.manishamohan.com/intrepid>.

²¹⁹ Amber Winick, "Project Intrepid," *Disegno Daily*, April 13, 2018, <https://www.disegnodaily.com/article/project-intrepid>.

relevant to women and argues that her “technosocial approach can help improve user safety and prevent sexual assault.” Through such knowledge claims, inventors frame their products as an empirically driven means of justice that serves to bolster the perceived reliability of these products as a solution to gender-based vulnerability.

Yet, within the imaginary, some inventors also weave their tacit knowledge as “outsiders” into their “maker” identities to point out how their standpoints allow them to better frame the commercial and social change agenda of anti-rape technology. In a 2017 *Forbes* article, ROAR’s Yasmine Mustafa writes about her background as an undocumented Kuwaiti immigrant and Gulf War refugee, who had to work low-wage jobs in the informal labor market; she explains that these experiences catalyzed her business spirit and led her to adopt a progressive epistemology of labor and technology:²²⁰

That whole experience made me want to be an entrepreneur. I worked for very unscrupulous people who knew I had no other way out and could ask me for anything. I thought, ‘I want to be a nicer version of you. I’m going to work for myself.’ After receiving her U.S. citizenship ... Mustafa celebrated with a six-month trip across South America, including Colombia and Bolivia. It was there that she first felt some trepidation as a woman solo traveler—and the first inkling she’d found her calling. In every hostel and on every bus she’d hear stories from women about attacks, muggings, or sexual assaults they’d endured. On her return to Philadelphia, she learned a neighbor had been dragged into an alley and raped on her way to her car. “When I read the news story, that’s when Athena was born.”²²¹

Similarly, Jacqueline Ros and Andrea Perdomo, the Latina inventors of the Revolar panic button, describe how their “cultural commonalities set a rock-solid [business] foundation” that strengthens their business and shapes the legitimacy of their product. In a 2015 interview for

²²⁰ ROAR is now a Certified B Corporation, a distinction given to “businesses that meet the highest standards of verified social and environmental performance, public transparency, and legal accountability to balance profit and purpose.” The Certified B approach to capitalism centers the values of inclusion and sustainability and attempts to use business to reduce income inequality.

²²¹ Clare O’Connor, “This Refugee Developed Smart Jewelry to Protect Women from Assault,” *Forbes*, March 27, 2017, <https://www.forbes.com/sites/clareoconnor/2017/03/27/this-refugee-developed-smart-jewelry-to-protect-women-from-assault/#60503bde11a7>.

Smart Girls, Ros emphasizes how her intention for the product is a good-faith effort driven by her personal experiences with acts of sexual violence:

I came up with the idea for the company and product when I was taking an entrepreneurial class in college. By the time I was a senior at the University of Florida, my sister was sexually assaulted twice. Several of my friends were raped. I had to do something. I used my graduation money to patent the idea and took a job with Teach for America to bootstrap [self-finance the project].²²²

Ros' multiple identities of advocate, maker, entrepreneur, and social outsider collide as she invokes the common "pull yourself up by your bootstraps" political idiom. Ros's close friend, Andrea Perdomo, joined Ros in the start-up venture after Perdomo's grandmother was kidnapped in Colombia and could not be located for eight months.²²³ In a 2017 interview with *Colorado Business Magazine*, Perdomo explains the importance of their shared nationality:

We have the same values. I resonated with Jackie's [effort to put "security in everyone's hands"] from the get-go. I looked at her business through the lens of having been born in Columbia and moved to the U.S. with my family for safety and security purposes. I liked the idea of empowering people to feel safe.²²⁴

While inventors' draw attention to their personal social location to legitimate their anti-rape products and their role in the marketplace, inventors also publicize how their outsider identities produce conflicts in asserting their expertise. Ironically, these instances show the salience of complex social relations in shaping one's vulnerabilities—something that as discussed earlier, is paradoxically absent in their product websites. In a 2017 interview with *Women of Wearables*, Perdomo elaborates on how both she and Ros have faced challenges in the tech community because of discrimination. Perdomo states:

Being a founder and entrepreneur is hard, and honestly, I didn't want to believe that

²²² Amy's Smart Girls, "Revolar's Jacqueline Ros Discusses a Movement of Empowerment," January 2, 2015, <https://amysmartgirls.com/revolars-jacqueline-ros-discusses-a-movement-of-empowerment-308fa094b8cd>.

²²³ Marija Butkovic, "Wow Women In Wearable Tech: Jacqueline Ros and Andrea Perdomo, Co-Founders of Revolar," *Women of Wearables*, September 21, 2017, <https://www.womenofwearables.com/new-blog/wow-women-in-wearable-tech-jacqueline-ros-and-andrea-perdomo-co-founders-of-revolar>.

²²⁴ Gigi Sukin, "Dynamic Duos: Jacqueline Ros and Andrea Perdomo," *Colorado Business Magazine*, January 30, 2017, <http://www.cobizmag.com/People/Dynamic-duos-Jacqueline-Ros-and-Andrea-Perdomo/>.

being a female founder would be different. But the more I got into this journey, the more I realized that people have unconscious bias about women. And for me, being young and Latina was just an added bonus. Some days are better than others, but I will say that being told no, or you can't do it, is my favorite thing to hear 'cause it lights up a flame that inspires me to prove them wrong.²²⁵

Similarly, Danya Sherman frequently tweets about her experiences of gender discrimination in the tech world. In one Tweet, she writes, "Got off a call where I was asked about KnoNap's pricing structure and responded the information will be made public later this year. The caller then asked to speak with someone "higher in the chain of command." I couldn't help but internally laugh as I said, "Sir, I am the CEO" (@danyaknonap, May 24, 2019). A few months earlier, Danya posted several memes of Harvard Business School research showing how venture capitalists discriminate against women entrepreneurs by describing them with gendered attributes such as "enthusiastic, but weak;" "good-looking and careless with money" (@danyaknonap, September 6, 2018). While Danya uses social media to denounce gender discrimination, she mobilizes a pop feminist empowerment discourse by countering these negative experiences with the hashtag "girlboss."

For inventors, the sociotechnical imaginary of anti-rape technology promises control over sexual violence and describes how the power of technoscience can make this dream come true. In advertisements, statements about inventors' connections to prestigious academic institutions and use of the scientific method legitimates anti-rape products as being accountable to the epistemic and normative demands of sexual violence survivors. In interviews, some inventors blur the conventional boundary between their technoscientific expertise and their tacit knowledge as both women and racial and ethnic outsiders in the technology world. However, inventors shore up their tacit knowledge claims by centering their individual technoscientific

²²⁵ Butkovic, "Wow Women in Wearable Tech."

expertise in product advertising. As anti-rape technology is framed as civic technology, this outsider knowledge serves to further authorize anti-rape inventors and condition the public to accept knowledge from minority “makers.” The safety framework offered by anti-rape inventors reimagines—and seeks to reconstruct—rape prevention as a self-controlled act of technically-mediated justice.

*Prescribing Justice through a Self-Controlled
Techno-Fix that Fosters Social Change*

Whereas inventors use knowledge claims to explain how different women’s interests are translated and enrolled in the development of their anti-rape products, inventors also synthesize their findings into easily digestible facts that cast anti-rape technology as a simple and self-controlled solution to address sexual violence risk and gendered vulnerability. Through this prognostic framing,²²⁶ inventors reconstruct the risk management affordances of their products into acts of gendered self-determination, personal judgment, and simple matters of self-control over their surroundings. The KnoNap website emphasizes that their product is a passive, knowledge-increasing tool that requires no technical skills: “All someone has to do is place a few drops of their drink on a designated part of the napkin. If there is a drug presence, there will be a color change around the saturated area.”²²⁷ The Invi Bracelet likewise describes how safety can be achieved in three simple steps: (1) press safety button, (2) pull with force, and (3) use scents for defense.²²⁸

Much as with the first theme of the imaginary, in promoting their products’ affordances,

²²⁶ Within social movement studies, prognostic framing is the articulation of a proposed solution to a problem. See: Robert D. Benford, and David A. Snow. “Framing Processes and Social Movements: An Overview and Assessment.” *Annual Review of Sociology*, 26 (2000): 616.

²²⁷ KnoNap, “Home Page Banner 2,” accessed April 10, 2020, <https://www.knonap.com>.

²²⁸ Invi.world, “Invi Bracelet.”

inventors and product promotions frequently invoke the umbrella of gender identity in their articulations of technically-mediated self-determination. Undercover Colors combines the tagline, “Portable, discreet, fast, and accurate,” with an infographic illustrating how, in four easy steps, the SipChip product offers women a self-controlled safety: “All a woman needs to do is (1) carry the SipChip, (2) place a drop from her drink onto the strip, (3) wait for the results, and (4) check the results.”²²⁹ The KnoNap calls for women to take control, using the tagline, “Because you are your first and best line of defense.”²³⁰ The Revolar makes a similar call for women to “Discover the power of Revolar,” followed by a quick list of the object’s affordances, namely that it is “simple and fast,” “optimized for daily use,” and “small and stylish.”²³¹

These claims articulate anti-sexual violence goals to gendered, “ready-made” design innovations, in which the ability to prevent sexual violence becomes achievable through a self-controlled techno-fix that side-steps engagement with the criminal justice system. In a 2017 interview with *The Guardian*, Jacqueline Ros of the Revolar describes how users of their product are part of a new mobilized public that endorse anti-rape products as a source of self-determination. She states, “Whether it’s the mother of a transgender child who’s starting college, a domestic violence survivor who says it helps them get up and go to work every day, or someone who was raped as a teenager and has now brought it for their daughter. The technology has been applicable to so many more people than we ever imagined.”²³² And yet, as the designs of anti-rape products decenter the criminal justice system and its punitive response to violence and instead facilitates community-based accountability for violence, the sociotechnical

²²⁹ Undercover Colors, “Home Page Banner 4.”

²³⁰ KnoNap, “Home Page Banner 1.”

²³¹ Revolar, “Home Page Banner 2.”

²³² Bateman, J. “Meet the Women Using Tech to Combat Sexual Assault,” *The Guardian*, March 20, 2017, <https://www.theguardian.com/careers/2017/mar/20/meet-the-women-using-tech-to-combat-sexual-assault>.

imaginary as a kind of *contentious politics*²³³ fails to move beyond a fleeting focus on gender and draw more explicit connections to racial or trans-justice projects that show how a community-based safety solution provides multiple layers of “safety”—even to protect against when state actors, such as the police, are culpable agents of violence.

Yet beyond mere personal risk management, the imaginary draws on the techno-fix discourse to articulate anti-rape technology as a form of gendered justice that fosters social change. Under this motivational framing,²³⁴ inventors invite women and their allies to become part of the anti-rape technology movement through consumption of their products. The tag line for Invi Bracelet declares that, “We are building a global culture that rejects sexual violence and promotes equality.”²³⁵ The company explains further:

A world free of sexual violence. That is what we are building, and we invite you to join us. With the Invi Bracelet we make people more resilient, while spreading knowledge and awareness, because only then this world can exist. Join the strong people, wear the Invi Bracelet and help promote these values.

Undercover Colors similarly states, “we want to use our skills to help create change. Sexual assault is a complicated problem, but we believe the SipChip™ can help eliminate many situations in which sexual assault occurs.”²³⁶ Likewise, ROAR adopts a techno-empowerment discourse, saying, “We envision a world where everyone can live their lives boldly. A more inclusive culture that fosters equality through safe work environments. Where technology empowers people to thrive.”²³⁷

²³³ Contentious politics is the use of disruptive techniques to make a political point. See: McAdam, Doug, Sidney Tarrow, and Charles Tilly. *Dynamics of Contention*. (Cambridge, UK: Cambridge University Press, 2001).

²³⁴ Within social movement studies, motivational framing is the so-called “call to arms.” See: Robert D. Benford, and David A. Snow. “Framing Processes and Social Movements: An Overview and Assessment.” *Annual Review of Sociology*, 26 (2000): 617.

²³⁵ Invi.world, “Strong People,” accessed April 10, 2020, <https://invi.world>.

²³⁶ Undercover Colors, “About Us,” accessed April 10, 2020, <https://www.undercovercolors.com/pages/about-us>.

²³⁷ ROAR for Good, “About Us,” accessed April 10, 2020, <https://www.roarforgood.com>.

In their narration of techno-empowerment, inventors articulate how anti-rape technology is both *reactionary* to the problem of sexual violence and *visionary* in imagining a future where technology fixes the gender inequity that leads to sexual violence. On a 2019 podcast with Robert Schmidt, Deloitte's Chief Internet of Things Technologist, Manisha Mohan describes how she hopes that in the next five years projects like Intrepid will not be needed anymore.²³⁸ In another interview, Manisha Mohan reiterates her product will catalyze this cultural change, arguing, "The only thing that will truly impact rape culture is when people (mostly men) stop raping. To do that, we need holistic solutions, such as Intrepid, that address the trends toward objectification, violence, enslavement, and reduced empathy."²³⁹ She clarifies that "holistic solutions," such as Intrepid, will "set the stage" for cultural change and "raise awareness." Jacqueline Ros of Revolar similarly describes how users of the product comprise an important social movement:

a movement of people taking back their lives; people living their lives without worrying about what they are wearing, where they are going, or what time they're going out. We use empowerment and not fear. That's the entire point of Revolar. We don't allow fear [of assault] to win. We don't allow fear to make us hide.²⁴⁰

KnoNap echoes this sentiment, emphasizing that the seemingly mundane nature of its product should not be minimized: "KnoNap is *not* a napkin company. KnoNap is a safety company. We work to empower, educate, and advocate against the issues of drug-facilitated sexual assault and crime."²⁴¹ Through statements such as these, inventors use motivational language that emphasizes the new forms of justice co-produced through their products. These framings are attempts to inspire outsiders to join and insiders to remain committed to anti-rape technology

²³⁸ The Coffee with Mr. IoT Podcast, "Manisha Mohan: A Sticker to Prevent Sexual Assault," *YouTube*, January 11, 2019, <https://www.youtube.com/watch?v=1oEvqBbFiz0>, 23:00.

²³⁹ Sophie Charara, "This Stick-On Wearable is Designed to Prevent Sexual Assault," *Wareable*, July 27, 2017, <https://www.wareable.com/smart-clothing/intrepid-mit-stick-on-sexual-assault-8763>.

²⁴⁰ Amy's Smart Girls, "Revolar's Jacqueline Ros Discusses a Movement of Empowerment."

²⁴¹ KnoNap, "Home Page Banner 3."

efforts, which they imagine will generate the kind of social change that will equitably serve all women.

To summarize, inventors imagine their race-neutral products as possessing the transformative power to catalyze a rape-free future. In their narratives, inventors return to an essentialized and gendered construction of vulnerability, without sufficient use of a politicized intersectional lens that would help to clarify what cultural changes are needed to create such a future. Beyond a mode of commercial and personal risk management, inventors cast anti-rape products as reconfiguring sociotechnical relationships in ways that will change social behaviors outside of the influence of the criminal justice system. This view is both aspirational and future-oriented, while also reductive in capturing the extent and contours of sexual violence.

Conclusion:

The Sociotechnical Imaginary as an Instrument of Legitimation

The imaginary of anti-rape technology is a key method—or “action repertoire”—where citizen-activists narrate what sexual violence risk is, prescribe how it can be prevented, and invite others to join in their movement. In this chapter, I have examined how the narrative of rape prevention technology is structured: (1) constructing sexual violence risk and narrating gender-based vulnerability; (2) emphasizing the technological, tacit, and entrepreneurial expertise of inventors; and (3) prescribing gendered justice through a self-controlled techno-fix that fosters social change. In this model, rape prevention technologies are not just individual products to be sold but are part of a coherent vision of a rape-free future with provocations and goals.

This narrative of the future provides an overarching structure—that technological alternatives will counter the limitations of the criminal justice response—and provides a mechanism for delivering this model to vulnerable people—using commercial safety products to

facilitate women's access to family and community-based resources. As such, the imaginary serves as an instrument of legitimation in constructing informal modes of justice that disengage with the punitive model of the criminal justice system. Given the racist nature of the American legal system, the carceral approach to sexual violence too often serves to legitimize the increased surveillance and punishment of Black women.²⁴² Thus, sexual violence interventions that draw on the strengths and accountability of community members are a welcomed approach to working outside of the expansion of carceral state power and over-policing of women of color through criminal justice solutions that ultimately serve to uphold a racially unequal social regime.

However, this kernel of a liberatory ethos—to draw on the strengths of the community—which could encourage a disinvestment in the carceral regime that disproportionately imprisons African American men and women and devastates communities of color is compromised as these products also legitimate other potentially problematic onto-epistemologies.²⁴³ The imaginary of anti-rape technology, as an action repertoire, has little to say about race and homogenizes the sexual oppression of women. Although inventors describe how the politics of social location shapes their own technoscientific and entrepreneurial expertise, this self-awareness is largely absent within articulations of women's broader social and legal vulnerability and in the positioning of these products as techno-fix. In universalizing vulnerability through an unstated premise of white racial homogeneity, the imaginary—as an action repertoire—contributes to the hegemonic knowledge system about sexual violence that further legitimates the positionality of white middle-class women rather than a site of radical knowledge and resistance that draws

²⁴² See, for example, Dorothy Roberts, "Complicating the Triangle of Race, Class and State: The Insights of Black Feminists," *Ethnic and Racial Studies* 37, no. 10 (2014): 1776-1782; and Dorothy Roberts and Sujatha Jesudason, "Movement Intersectionality: The Case of Race, Gender, Disability, and Genetic Technologies," *Du Bois Review: Social Science Research on Race* 10, no. 2 (2013): 313-328.

²⁴³ See: Ruth Wilson Gilmore, "In the Shadow of the Shadow State," in *The Revolution Will Not Be Funded: Beyond the Non-Profit Industrial Complex*, ed., INCITE! (Durham, NC: Duke University Press, 2017), 41-52.

attention to how social and legal practices are constituted through intertwined race, gender, and class oppressions. As I will discuss in more detail in the next chapter, Black feminist scholars have established the fallacies of a simple gender framework that masks the ways in which race, gender, sexuality, and class oppressions operate in people's lives, and thus, erases the experiences of people on the margins.²⁴⁴

As an activist strategy, inventors and their companies could strengthen their framing of the relationship between vulnerability and the positioning of anti-rape technology as a method of fostering community-based accountability. They might do so by acknowledging how the state participates in the peculiar surveillance and regulation of poor and people of color, and how neoliberal policies have also led to a retrenchment of resources that might have made women of color more vulnerable to violence.²⁴⁵ Racist legacies, state sponsored legal and police surveillance and regulation too often place African Americans in precarious places—even when seeking protection against violence in their homes.²⁴⁶ Without an explicit anti-racist lens and consciousness, the sociotechnical imaginary's framing of the injustices of sexual violence remain grounded in the frictions of white middle-class America. This, of course, raises the question of how the materiality of anti-sexual violence technology works towards or against addressing the way poor and women of color experience sexual violence. To this end, STS scholars have showed how many so-called “benevolent” techno-fixes can be duplicitous and perpetuate racial²⁴⁷ and socioeconomic²⁴⁸ divides. However, as Ruha Benjamin argues in *Race After*

²⁴⁴ See: Crenshaw, “Demarginalizing the Center,” and Higginbotham, “African-American Women's History and the Metalanguage of Race.”

²⁴⁵ See: Crenshaw, “Mapping the Margins,” and Beth Richie, “A Black Feminist Reflection on the Antiviolence Movement,” *Signs* 25, no. 4 (2000): 1133-1137.

²⁴⁶ See: Richie, *Compelled to Crime*, and Roberts, “Complicating the Triangle of Race, Class, and State.”

²⁴⁷ See: Benjamin, *Race After Technology*, and Noble, *Algorithms of Oppression*.

²⁴⁸ See: Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor* (New York: St. Martin's Press, 2018).

Technology, while technology can produce and reproduce racial inequality, it can also undo these practices through a critical consciousness that centers the margins.

A second limitation is related to how the imaginary legitimates *consumption* as a form of sexual violence justice. Notably, the for-profit nature of these products is not often explicitly discussed in the imaginary. Instead, inventors emphasize how their civic technologies will generate social change. The attempt to minimize the for-profit nature of these products is not surprising, given how inventors imagine technology as an activist tool for social good. Nonetheless, it is undeniable that the cost of these products will be prohibitive for many women—disproportionately poor and women of color—raising serious questions about inventors’ *inclusion through technology* stance. As with governance feminism, white and middle-class women will be most likely to mobilize the affordances offered by anti-rape technologies. The Revolar panic button, at \$39.99, is at the lower end of the cost scale of these products, with the Invi Bracelet costing nearly twice as much at \$70. While even \$39.99 is too expensive for many women, the Revolar may seem quite affordable compared with the monthly subscription fee of \$29.95 required to use the Nimb Ring. The SipChip boasts \$5 per test, further limiting its accessibility is that a woman concerned about drink spiking might have to use a large number of the single-use drug tests per outing. In short, poor women—who are multiply-burdened and are already disproportionately vulnerable to sexual violence—are unlikely to be able to access these anti-rape interventions. This is especially problematic as these women are subject to enhanced surveillance by the criminal justice system.

There is some evidence that inventors are conscious of this affordability problem. Revolar created their “Get Revolar, Give Revolar” purchase option so that the company could use donations to give some women access to their product at no cost. Also citing the need for

affordability, Roel van der Kamp, inventor of the Invi Bracelet, explained in a 2018 article on *Medium*, “my goals are to raise awareness of sexual harassment both in Western countries and the rest of the world. And to make the Invi Bracelet affordable for everyone who may benefit from the product, or who wants to make a statement against sexual violence.”²⁴⁹

One statement yet to be made by inventors and promoters is related to the economic costs of experiencing sexual violence. The Centers for Disease Control and Prevention estimates that the per-victim lifetime cost of rape is \$122,461.²⁵⁰ The financial consequences of sexual violence are amplified in poor communities, which have fewer material resources. Read alongside this figure, the cost of any anti-rape technology seems minimal—although the prices quoted above suggest that anti-rape technologies still remain out of the reach of many individuals.

Whether or not inventors will remain conscious of the cost problem in the future is an open question. At the time of this analysis, a small group of inventors have enormous impact on the shape and direction of the sociotechnical imaginary. As demand for these products grows, it is possible that new actors will enter the market and, as such, may inject new voices and values into the imaginary. It is here that we should closely watch for what STS scholar David Hess termed “private-sector symbiosis,” in which the private sector’s emphases on innovation and profitability merge with technological activism, a process which, in turn, leads to an articulation of social movement goals.²⁵¹ It is in this sense, perhaps, that some anti-sexual violence activists will never feel comfortable with a for-profit prevention solution. As such, anti-rape technology is

²⁴⁹ Roel van der Kamp, “Story of Roel van der Kamp of Invi,” *Medium*, June 12, 2018, <https://medium.com/story-of-ams/story-of-roel-van-der-kamp-founder-of-invi-375d22affa82>.

²⁵⁰ See: Sarah deGue, “The Cost of Rape,” *National Sexual Violence Resource Center*, December 4, 2018, <https://www.nsvrc.org/blogs/cost-rape>. The CDC’s analysis estimates on the economic burden of rape approximates the per-victim lifetime cost of rape as \$122,461. The CDC also interprets the per-victim cost as the costs averted for each potential victim who does not experience rape. When this per-victim cost is multiplied by the estimated 25 million reported adult victims of rape in the U.S., the CDC finds that rape cost the economy approximately \$3.1 trillion dollars over the lifetimes of those 25 million victims.

²⁵¹ Hess, “Technology-and Product-Oriented Movements.”

a political intervention that is contentious among differently situated activists.

As currently constituted, the sociotechnical imaginary of anti-rape technology shows how some citizen-activists develop rape prevention technology as a material-discursive practice of resistance and how proponents of these products imagine that anti-rape technology, as onto-epistemic objects, will empower women vulnerable to sexual assault and catalyze social change. While this imaginary fails to address overlapping structures of subordination, in the next chapter I examine intersectional feminist values in order to think through how anti-sexual violence technologies might be designed with anti-racist sensibilities. In doing so I also offer one intersectional material-discursive practice of resistance that account for the intricacies of rape and its relationship to multiple forms of power and oppression.

3

Knowing-Making Rape Reporting Platforms: Coding Intersectionality with Value-Hypotheses

Power, Mobilizing Accountability, and Information Architecture

In December of 2016, journalist April Glaser published an article in *Wired* to alert the tech community about the gendered power dynamics that shape sexual violence reporting. Coming off the heels of the high-profile serial sexual assault cases of comedian Bill Cosby and television executive Roger Ailes, Glaser's article highlighted the sexist assumptions that inform how authorities often regard reports of assault and deny survivors accountability:

Perpetrators can get away with attacking so many because often, when individuals report these crimes, they are ignored or discredited. But in the cases above [Bill Cosby and Roger Ailes], after multiple survivors—previously unbeknownst to one another—shared the same story, the authorities and the public started to take their accusations seriously. There's strength (and credibility) in numbers, after all, but victims have few ways to connect with one another. We can fix this.¹

Glaser goes on to describe an optimal software platform that would support victims who want to come forward but whose motives for reporting are often questioned. She argues such a system

¹ April Glaser, "How Simple Software Could Help Prevent Sexual Assault," *Wired*, December 9, 2016, <https://www.wired.com/2016/12/prevent-sexual-assault-with-software/>.

could allow a victim to “communicate safely and anonymously with other victims—a mechanism for filing her story in a trusted, fully encrypted system that would allow her to maintain control of her identity.”² If other women reported the same perpetrator, the system could alert them to join a private messaging center to “communicate, coordinate, and, if they decide to, send a report to law enforcement and any organizations affiliated with their alleged assailant.”³ Ultimately, as these women would presumably come forward together, “police would be pressed to review the report, contact the victims, and weed out any impostors.” Glaser concludes with a call to action to the tech community, urging that while a version of this software exists on a few college campuses, women need a “more robust and universally available” solution.

The flagship software Glaser references is Callisto Campus, and is now one of several digital reporting platforms designed with what economists Ian Ayers⁴ and Cait Unkovic call an allegation “information escrow”—into which users can submit details about an assault to a “centralized escrow agent” who holds the data until pre-specified conditions are met (e.g., the escrow agent receives a second allegation against the same perpetrator).⁵ Callisto Campus first piloted in 2015 at Pomona College and the University of San Francisco, and is now used on at least 24 campuses.⁶ Given the Trump administration’s attempts to weaken Title IX and university’s power to hold perpetrators accountable to acts of violence,⁷ the company is planning

² Ibid.

³ Ibid.

⁴ Ian Ayers also serves on the governing board of Callisto.

⁵ Law economists Ian Ayers and Cait Unkovic first proposed the use of information escrows for reporting software in Ian Ayers and Cait Unkovic, “Information Escrows,” *Michigan Law Review* 111 (2012): 145.

⁶ Callisto is a 501c3 non-profit organization and also relies on philanthropy fundraising. The platform is tailored for each school, which purchases the system for between \$10,000 and \$30,000. See: Jonathan Grieb, “Reporting Sexual Misconduct Could Get Easier with New Apps JDoe and Callisto,” *Cnet*, August 22, 2018, <https://download.cnet.com/news/reporting-sexual-misconduct-could-get-easier-with-new-apps-jdoe-and-callisto/>.

⁷ Anya Kamenetz, “A Tech-Based Tool to Address Campus Sexual Assault,” *NPR*, December 6, 2017, <https://www.npr.org/sections/ed/2017/12/06/567605752/a-tech-based-tool-to-address-campus-sexual-assault>.

to launch a second product in 2020, simply called Callisto. This new system will connect users with an attorney, rather than a Title IX coordinator, and will be accessible to any employer, in any industry or community.

A comparable product, JDoe, is already on the market. Launched in 2017 and supported by ABC's *Shark Tank* entrepreneur Mark Cuban, JDoe similarly asks victim-survivors to record their assaults in an information escrow that works to identify repeat sexual offenders. Accessible through a smartphone, the software allows users to "geocode" where assaults have taken place and provides them the option to connect with a civil attorney. In addition, the system has the ability to collect basic information necessary to file class-action lawsuits against serial perpetrators.⁸

A third popular platform, Talk to Spot, is an AI bot created to encourage employees to report and human resource (HR) teams to address workplace harassment. Spot records details of harassment by conducting a virtual "cognitive interview"⁹ with victim-survivors. This interview method is similar to the memory recall technique used by law enforcement, during which survivors provide details of their assault and perpetrator. The Spot AI records the incident, and, if the user wishes, submits the report to the organization's HR managers.¹⁰ Spot is currently in use

⁸ Civil law and criminal law are separate entities, with separate laws and punishments. Whereas criminal law pursues punishment, civil law pursues redress through compensation or restitution. Survivors can access the platform at no cost. JDoe is funded by lawyers who pay \$1,000 per year to access the system. See: Grieg, "Reporting Sexual Misconduct Could Get Easier with New Apps JDoe and Callisto."

⁹ A cognitive interview is a method of interviewing victims and eyewitnesses about a crime. The cognitive interview includes six sections: an introduction, rapport building, transfer of control of the interview to the interviewee, detailed recall (in which the interviewee must recall more detail than people normally do in conversation), open-ended narration, and follow-up questions.

¹⁰ Spot is free for anyone to use, but companies can pay for access and for Spot to manage reports. Spot offers a sliding-scale pricing system based on the number of employees: a small business with fewer than 100 employees would pay as little as \$100 per month, while a large corporation with 10,000 employees would pay more than \$2,000 per month. See Talk to Spot, "Pricing," accessed April 10, 2020, <https://talktospot.com/pricing/>.

at companies as diverse as Stripe,¹¹ DaVita Kidney Care,¹² and Kickstarter.¹³

The efforts of Callisto, JDoe, and Spot to address an injustice by injecting a sense of solidarity into the reporting experience is a worthy one. The process of reporting is notoriously unpleasant and is often overwhelming for survivors—who are likely to feel a wide range of emotions including fear, loneliness, anger, anxiety, depression, and preoccupation with the assault.¹⁴ Most survivors do not know what resources are available nor how to engage them; moreover, when survivors receive insensitive treatment following an assault, they often become hesitant to seek further help and thus become further isolated.¹⁵ Despite the sense of collective action generated from the #MeToo movement that led to an overall 13% increase in reports of sexual violence across racial and socioeconomic lines, these problems remain widespread.¹⁶ The 2019 Association of American Universities longitudinal survey of 150,000 college students found that approximately 41.7% of cis-female survivors of penetration by force were unwilling to report their attack because they “felt embarrassed, ashamed, or that it would be too emotionally difficult”; 24.8% did not report because the “reaction by others suggested that it wasn’t serious enough to contact any programs or services”; and 17.2% feared the report would not be kept confidential.¹⁷ Given these numbers, few would argue that we should not continue to

¹¹ A company that provides online payment processing for e-business companies.

¹² A multi-billion-dollar chain of dialysis and kidney health care centers.

¹³ A global crowdfunding platform that helps to launch independent creative projects.

¹⁴ See Charlotte Pierce-Baker, *Surviving the Silence: Black Women's Stories of Rape* (New York: WW Norton & Company, 2000); Lori Robinson and Julia A. Boyd, *I Will Survive: The African-American Guide to Healing from Sexual Assault and Abuse* (New York: Seal Press, 2003); and Carolyn West and Kamilah Johnson, *Sexual Violence In The Lives of African American Women: Risk, Response, and Resilience* (Harrisburg, PA: National Online Resource Center on Violence Against Women, 2006).

¹⁵ Rebecca Campbell and Sheela Raja, “The Sexual Assault and Secondary Victimization of Female Veterans: Help-Seeking Experiences with Military and Civilian Social Systems,” *Psychology of Women Quarterly* 29, no. 1 (2005): 97-106.

¹⁶ Levy Roe and Martin Mattsson, “The Effects of Social Movements: Evidence from #MeToo” (March 30, 2020). Available at <http://dx.doi.org/10.2139/ssrn.3496903>.

¹⁷ See Table 21 in Cantor et al., *Report on The AAU Campus Climate Survey on Sexual Assault and Sexual Misconduct Report* (2019).

address the problems people face in reporting violence, and, given cultural preferences—especially among younger people—technology could be useful as part of a strategy to challenge patterns of individual and institutional neglect and repression of sexual violence reports.

The creation of reporting platforms is one type of anti-violence action repertoire focused on enrolling software to mobilize anti-violence goals within institutions and transform institutional behavior. Here rape reporting platforms work as *information infrastructure*—an assemblage of material and discursive practices that enable the production and circulation of *desirable* forms of expression, interaction, and knowledge after an assault. While frequently lauded by activists for their imagined neutrality, rape reporting platforms are most often endorsed for their desired ability to “produce powerful new types of evidence” that will create social and institutional accountability.¹⁸ For example, the Public Broadcasting System (PBS) News Hour, praised Callisto for its ability to “meet the standard of evidence needed in sexual assault cases to make a conviction.”¹⁹ Similarly, *Cnet*, a popular technology forum, suggested that JDoe can identify serial perpetration “exponentially faster,” a status necessary to build strong cases for the civil law system.²⁰ And *Fast Company* highlighted Spot’s ability to improve the “quality of evidence that complainants put forward.”²¹ As sexual harassment and assault are too often dismissed as a he said/she said issue, in which what “he said” seems to most often prevail, providing mechanisms to challenge neglectful institutional behavior and better women’s lives is incredibly worthwhile.

¹⁸ Ian Ayers, “Meet Callisto, the Tinder-Like Platform that Aims to Fight Sexual Assault,” *Washington Post*, October 9, 2015, https://www.washingtonpost.com/opinions/using-game-theory-technology-to-fight-sexual-assault/2015/10/09/f8ebd44e-6e02-11e5-aa5b-f78a98956699_story.html.

¹⁹ Jessica Ladd, “How I Help Sexual Assault Survivors Feel Like They’re Not Alone,” *PBS*, October 19, 2017, <https://www.pbs.org/newshour/brief/231133/jessica-ladd>.

²⁰ Grieg, “Reporting Sexual Misconduct Could Get Easier with New Apps JDoe and Callisto.”

²¹ Anisa Purbasari Horton, “These Apps Try to Make Reporting Sexual Harassment Less of a Nightmare. Do They Work?” *Fast Company*, February 12, 2019, <https://www.fastcompany.com/90303329/these-apps-try-to-make-reporting-sexual-harassment-less-of-a-nightmare-do-they-work>.

However, similar to anti-rape products, the endorsements of reporting software contribute to an emerging *inclusion-through-technology* paradigm that positions anti-sexual violence technology as an efficient risk managing solution and techno-fix, despite its insufficient attention to racialization and class hierarchy. As will be made clear in this chapter, by failing to address how the intersections of race, gender, and class bear on the reporting experience, the designs of existing rape reporting platforms most often code survivors as white and middle class. In doing so, the use of rape reporting platforms—as a digitalized action repertoire—serves to challenge only certain discriminatory practices while maintaining existing racial and ethnic hierarchies, and thus limits the potential transformative outcomes of these resistive technologies.

Whiteness: Race-ing the Injustices of the Reporting Experience

As described in the previous chapter, subordinated women—particularly poor women and women of color—are at the highest risk for experiencing sexual violence. There are other anti-violence activists who mobilize knowledge about these vulnerabilities. For example, statistics provided by the Women of Color Network suggest that 17% of white women have been raped, while 18.8% of Black women, 24.4% of mixed-race women, and 34.1% of Native American women have been raped. Although women of color are the primary targets of sexual violence, 80% of rapes are reported by white women.²² For every Black woman that reports her rape, at least 15 Black women do not report.²³

While deciding to report an assault is a personal choice, the racial disparities reflected in rates of reporting are indicative of the material consequences of white supremacy, as well as the

²² End Rape on Campus, “Survivors of Color Prevalence Rates,” accessed April 10, 2020, <https://endrapeoncampus.org/new-page-3>.

²³ Ibid.

subjectivities that too frequently articulate the ‘survivor’ to whiteness. Used here, *whiteness* refers to the often-unmarked cultural practices that articulate to a system of privileges and form of power. Cultural studies scholar Alison Phipps describes how, for the sexual violence survivor, whiteness shapes gendered narratives of fragility and woundability—which are characterized by “the threat of lost male entitlement” to women’s bodies and “the assumed purity and vulnerability of white women.”²⁴ The construction of white woundability—a counter to the status of Black women²⁵ and other women of color²⁶ as being unrapeable—underlies experiences of reporting. As Ruth Frankenberg writes, “the material and discursive dimensions of whiteness are always, in practice, interconnected.”²⁷ Discursive repertoires may reinforce, contradict, conceal, explain, or ‘explain away’ the materiality or the history of a given situation. Their interconnection. . . is in fact what generates ‘experience.’” Building on this description, Derek Hook frames whiteness as an affective currency, or a form of political capital.²⁸ In terms of reporting sexual violence, culturally salient narratives of vulnerability become the currency traded in accounts of rape

The relational and normative standard of whiteness shapes the experience of reporting when authorities mobilize racialized discourses of affect and eroticism that function to “justify” the rape of women of color. Such tropes include the insidious stereotypes that Asian women are

²⁴ Alison Phipps, “‘Every Woman Knows a Weinstein’: Political Whiteness and White Woundedness in #MeToo and Public Feminisms around Sexual Violence,” *Feminist Formations* 31, no. 2 (2019): 17.

²⁵ Saidiya V. Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America* (New York: Oxford University Press on Demand, 1997).

²⁶ Phipps, “‘Every Woman Knows a Weinstein.’”

²⁷ Ruth Frankenberg, *White Women, Race Matters: The Social Construction of Whiteness* (Minneapolis, University of Minnesota Press, 1993), 2.

²⁸ Derek Hook, “Affecting Whiteness: Racism as Technology of Affect,” *International Journal of Critical Psychology* 16 (2005): 74-99.

exotic and sexually subservient,²⁹ that Black women are hypersexual³⁰ and “super strong,”³¹ and that Latina women are sexually alluring and always available “cantina girls”³² or low-life “cholas” who are “always pregnant.”³³ For depictions of authentic survivorship, whiteness as a representational norm erases and minimizes the experiences of poor women and women of color through moral judgments about goodness and “respectability”—the idea that minorities can counter structural racism by individually behaving in a “respectable” way that articulates to whiteness.³⁴ Yet, whiteness as a representation norm of survivorship is also relational to the perceived goodness and “respectability” of the perpetrator. In the words of Nicole Pietsch, “whiteness affects our impression of the ‘guilty status’ of the perpetrator. And more specifically, if the woman is racialized, the perpetrator appears less guilty of committing a crime.”³⁵ These impressions extend to poor and lower-class women, where constructions of the “brutal working-class rapist” paradoxically depict working class women as un-credible complainants.³⁶

Whiteness also organizes social relations in ways that mask how the decision to report violence may not be a simple one. Alison Phipps explains that, in the context of the anti-sexual violence movement, *political whiteness* can be understood as an orientation to and mode of politics that invokes state and institutional power to redress personal injury, while erasing how

²⁹ Aki Uchida, “The Orientalization of Asian Women in America,” *Women’s Studies International Forum* 21, no. 2 (1998): 161-174.

³⁰ Patricia Hill Collins, *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment* (London: Unwin Hyman, 1990).

³¹ Veronica Chambers, “from Mama’s Girl,” *Critical Quarterly* 39, no. 3. (1997): 69-80.

³² Gary D. Keller, *Hispanics and United States Film: An Overview Handbook* (Tempe, AZ: Bilingual Press/La Revista Bilingüe, 1994).

³³ Vera López and Meda Chesney-Lind, “Latina Girls Speak Out: Stereotypes, Gender and Relationship Dynamics,” *Latino Studies* 12, no. 4 (2014): 527-549.

³⁴ “Respectability” is a discourse that is used to disregard and control communities of color³⁴ and that minimizes the legacies of structural racism. See Osagie K. Obasogie and Zachary Newman, “Black Lives Matter and Respectability Politics in Local News Accounts of Officer-Involved Civilian Deaths: An Early Empirical Assessment,” *Wisconsin Law Review* (2016): 541.

³⁵ Nicole Pietsch, “‘I’m Not That Kind of Girl’: White Femininity, the Other and the Legal/Social Sanctioning of Sexualized Violence Against Racialized Women,” *Canadian Woman Studies* 28, no. 1 (2010), 138.

³⁶ Bourke, *Rape, Sex, Violence*.

sexual violence is experienced in a white-patriarchal capitalist apparatus.³⁷ For example, due to long histories of institutionalized abuse, Black women are more likely than white women to distrust both law enforcement³⁸ and medical professionals³⁹—two authoritative bodies to which survivors are often encouraged to report. Because of histories of police violence against Black communities, Black women who experience violence at the hands of Black men may face different pressures about reporting these acts of violence than white women.⁴⁰ They may be entrenched in cultures of silence⁴¹ or face subtle pressures to resist sending another Black man to jail and, in doing so, risk perpetuating durable stereotypes that all Black men are rapists.⁴² These concerns are further expressed in journalist Hannah Giorgis’s reflection that “while being a ‘good’ rape victim means reporting to the police, being a ‘good’ Black person means avoiding police—as one’s life often depends on it.”⁴³

The power and privilege of political whiteness also affects some survivors’ access to resources and sovereignty, and rural women and women in poverty face additional burdens in simply accessing resources. Native American women who live on reservations frequently have limited access to resources like telephones, childcare, transportation, and victim advocacy centers compared to women in urban areas. While there are over 17,000 rape crisis centers in the contiguous U.S., there are fewer than five rape crisis programs treating sexual assault victims

³⁷ Phipps, “‘Every Woman Knows a Weinstein.’”

³⁸ Richie, *Arrested Justice*.

³⁹ Harriett Washington, *Medical Apartheid: The Dark History of Medical Experimentation on Black Americans From Colonial Times to the Present* (New York: Doubleday Books, 2006).

⁴⁰ Bumiller, *In an Abusive State*.

⁴¹ Pierce-Baker, *Surviving the Silence*.

⁴² Roxanne Donovan and Michelle Williams, “Living at the Intersection: The Effects of Racism and Sexism on Black Rape Survivors,” *Women & Therapy* 25, no. 3-4 (2002): 95-105.

⁴³ Hannah Giorgis, “Many Women of Color Don’t Go to Police After an Assault for a Reason,” *The Guardian*, May 25, 2015, <https://www.theguardian.com/commentisfree/2015/mar/25/women-of-color-police-sexual-assault-racist-criminal-justice>.

located in any tribal community.⁴⁴ And, highlighting the extent of criminal justice neglect, according to the Department of Justice’s annual report to Congress, U.S. attorneys decline to prosecute approximately 67% of sexual abuse cases in Indian Country.⁴⁵

In short, reporting sexual violence is a dynamic experience constituted by the material and discursive consequences of white supremacy. Thus, without attention to the interaction of gender subordination with race and class, the activism of reporting software will fail to address the intersecting and systemic social oppressions that shape rape myths and the material experiences of reporting violence. Put differently, reporting platforms that adopt a single-axis political organization around constructions of “survivorship” will obscure the overlapping ways in which class and race stratification affect reporting, thus impeding the otherwise worthy effort to increase survivors’ autonomy.

As the previous chapter examined how the sociotechnical imaginary of anti-rape products narrates a single-axis framing of vulnerability, this chapter asks the following: What social relations and issues of inequality are reporting software responding to? And, how can citizen-activists engage in intersectional design practices in order to mobilize against a wider range of survivor injustices? The answer I propose is found in approaching reporting platforms as experimental information infrastructure. This approach suggests that technological affordances can represent forms of critical race justice as software logics intended to create inclusive reporting interventions. Simply stated, citizen-activists can develop reporting infrastructures that function as anti-oppressive technologies in ways that better meet the justice needs of women of color, poor women, and immigrant women.

⁴⁴ Roe Bubar, “Cultural Competence, Justice, and Supervision: Sexual Assault Against Native Women,” *Women & Therapy* 33, no. 1-2 (2009), 61-62.

⁴⁵ Department of Justice. *U.S. Department of Justice Declinations of Indian Country Criminal Matter* [GAO-11—167R] (Washington, DC: U.S. Government Accountability Office).

In what follows, I first briefly describe how STS scholars have examined digital technologies as value-laden infrastructures and knowledge-producing systems that operate to enable and constrain hegemonic discourse and practices. I then map the ways in which rape-reporting software developers have constructed the relationship between victim-survivors, institutions, and perpetrators in three case studies—Callisto, JDoe, and Spot. These platforms were selected because of their popularity and because scholars have not yet examined their designs and social impact in challenging misogyny and rape culture. Next, after clarifying the limitations of these designs, I articulate an intersectional framework through which practitioners can better engage intersectional values in the design of reporting platforms. Using a design justice framework, I conclude with a discussion of how engaging intersectional design processes can create infrastructures that enable new resistive ways of relating with authority structures. These infrastructures can particularly benefit survivors who are multiply burdened under white supremacy, heteropatriarchy, capitalism, and settler colonialism—the very survivors who are historically least likely to report violence. Although my analysis focuses on reporting platforms, this intersectional framework can be useful in liberating other anti-sexual violence technologies.

Mobilizing In/equality: Digital Platforms as Racialized Information Infrastructure

Social movement scholar Suzanne Staggenborg proposed three broad categories of social movement outcomes.⁴⁶ *Political and policy outcomes* that include direct legislative and institutional impacts and contributions to policy agenda setting. *Mobilization outcomes* referring the efforts to mobilize groups of people in collective action, and *cultural outcomes* focused on

⁴⁶ Suzanne Staggenborg, “Can Feminist Organizations be Effective?” in *Feminist Organizations*, ed., Myra Marx Ferree and Patricia Yancey Martin, 339-355. Philadelphia: Temple University Press, 1995.

“changes in social norms, behaviors, and ways of thinking among a public that extends beyond movement constituents or beneficiaries.”⁴⁷ Rape reporting platforms are a repertoire of electronic contention in service of both mobilization and cultural outcomes: catalyzing institutional accountability through the diffusion of knowledge about acts of violence.

As an anti-violence tactic, reporting platforms are *information infrastructures*: interconnected knowledge systems that are embedded within and facilitate the circulation of knowledge in other social arrangements and structures.⁴⁸ A key contribution of STS scholars Susan Leigh Star and Karen Ruhleder’s formative analysis is that infrastructure is a fundamentally relational concept, materializing in relation to organized and networked practices, and is never simply a thing stripped of use, meaning, and value.⁴⁹ It is in this way then, that information infrastructures serve to either maintain or transform existing power relationships within institutions.⁵⁰

Given the mutability and political relationality of technological *affordances*—or what an object offers a user—STS scholars Casper Bruun Jensen and Atsuro Morita argue that designers should conceive of infrastructures as sites for “ontological experiments,” in which infrastructures are not spaces where political relations are rigidly embedded, but mutable sociotechnical systems that can co-produce new political forms and ways of relating.⁵¹ In other words, Jensen and Morita conceive of infrastructures as assemblages that “integrate disjunctive sociotechnical

⁴⁷ Ibid, 341.

⁴⁸ Susan Leigh Star and Karen Ruhleder, “Steps Toward an Ecology of Infrastructure: Design and Access for Large Information Spaces,” *Information Systems Research* 7, no. 1 (1996): 111-134.

⁴⁹ Star and Ruhleder, 113. Star and Ruhleder also describe infrastructures as logical, established and *transparent* systems that do not have to be reinvented each time they are used; as having spatial or temporal *reach* or consequences beyond the single moment that they are used; and as systems that are generally invisible and taken for granted but which become *visible upon breakdown*.

⁵⁰ Christine L. Borgman, Paul N. Edwards, Steven J. Jackson, Melissa K. Chalmers, Geoffrey C. Bowker, David Ribes, Matt Burton, and Scout Calvert, “Knowledge Infrastructures: Intellectual Frameworks and Research Challenges” (Ann Arbor, MI: Deep Blue, 2013).

⁵¹ Casper Bruun Jensen and Atsuro Morita, “Infrastructures as Ontological Experiments,” *Engaging Science, Technology, and Society* 1 (2015): 81-87.

elements and ‘spin out’ new human and non-human relations.”⁵² As designers can manipulate the form and function of information infrastructure, we should approach rape reporting platform not as rigid tools for advancing anti-violence agendas, but as “ontological experiments” that give material form to and reconfigure culture, society, and politics.

This conceptualization helps clarify the ways in which racial bias may be encoded in and mobilized through information infrastructure and design practices. For example, STS scholar Madeline Akrich shows how technology designers and promoters inscribe their own ideas and values into technological affordances and thus shape the possible relations between users and technologies through “product scripts.”⁵³ Akrich identifies this inscription of ideology as it occurs through explicit methods, such as market surveys, consumer testing, and user feedback, as well as through implicit methods, such as considering “expert” input, adopting the affordances of other products, and using the “I-methodology”—in which designers consider themselves socially and economically representative of end users and incorporate their own preferences into the design. She finds that, in practice, implicit strategies are most powerful in shaping the affordances of technological designs. While historian Joel Dinerstein asserts that “technology as an abstract concept functions as a white mythology, scholars of whiteness rarely engage technology as a site of dominant white cultural practices (except in popular culture), and scholars of technology often sidestep the subtext of whiteness within this mythos.”⁵⁴

To answer this call, more recent STS scholarship interrogates how whiteness operates through information infrastructures to organize social relationships in ways that co-produce

⁵² Jensen and Morita, 617.

⁵³ Madeline Akrich, “User Representations: Practices, Methods and Sociology,” in *Managing Technology in Society*, eds., Arie Rip, Thomas Misa and Johan Schot (London: Pinter Publisher, 1995), 167-184.

⁵⁴ Joel Dinerstein, “Technology and its Discontents: On the Verge of the Posthuman,” *American Quarterly* 58, no. 3 (2006): 570.

racial and class-based inequality through algorithmic bias. New media scholar Wendy Chun urges us to conceive of “race and/as technology,” to “see the continuing function of race. . .and highlight the fact that race has never been simply biological or cultural, but rather a means by which both are established and negotiated.”⁵⁵ Communications studies scholar Safiya Umoja Noble analyzes the architecture of search engines and the Internet to show how prejudices against Black girls are embedded in so-called neutral algorithms through “technological redlining” and “algorithmic oppression.”⁵⁶ She shows how these biased practices produce search engine decisions that reinforce oppressive social relations and perpetuate the racist characterization of Black girls as being commodities for sexual gratification. Sociologist Ruha Benjamin similarly argues that digital information technologies, which are often characterized as progressive and less discriminatory than human systems, ultimately “reflect and reproduce existing inequalities.”⁵⁷ Benjamin argues that whiteness and the productive power of racism operates through algorithms as complex forms of categorization that renders people and places legible to authorities in racialized ways. For example, she describes how whiteness shaped the normative standards of photography and embedded skin tone biases through Kodak’s “Shirley Cards”—an image of a white woman that was used to standardize the film exposure process. As “Shirley’s” fair skin was set as the norm, people with darker skin would be underexposed.

Without attention to intersectionality, algorithmic interventions into gendered social problems become constitutive infrastructures of whiteness. For example, Rena Bivens and Anna Hoque demonstrate how whiteness constitutes the self-declared feminist dating app, Bumble, in that the epistemological underpinnings of the app’s design locates gender through a single axis of

⁵⁵ Wendy Chun, “Technology and/as Race,” in *Race After the Internet*, eds., Lisa Nakamura and Peter Chow-White (Abingdon-on-Thames, UK: Routledge), 43-33.

⁵⁶ Noble, “A Future for Black Feminist Technology Studies.”

⁵⁷ Benjamin, *Race After Technology*.

oppression.⁵⁸ Similarly, Mitali Thakor explains that child porn detecting algorithms become a means to manage race by encoding “childhood innocence as whiteness, and whiteness as innocence, in the algorithmic detection of victims and abusers.”⁵⁹ These algorithms symbolize the expansion of police power through shadow carcerality, as these algorithms have transformed and expanded policing into a distributed network of labor that is increasingly completed by networked human content reviewers, computer scientists, and technology companies who participate in “seeing” child porn.

To date, little work has been done to examine the terms by which reporting platforms construct vulnerability, and the relations of power that are enabled and constrained by reporting platform designs. The next section begins to fill this gap, as I analyze the three aforementioned reporting platforms, all highly regarded in the tech community—Callisto, JDoe, and Spot. I use the platforms’ publicly stated affordances as a basis of analysis to reveal the ways in which whiteness shapes the design of these products. This focus suggests that by giving attention to system-level complexity in reporting, through an intersectional lens, anti-violence citizen-activists can engage in repertoires of electronic contention that better address the experiences of subordinated communities. The first step in this process is recognizing the ways in which hegemonic sensibilities are encoded into reporting platforms through design choices.

To complete this analysis, I conducted a discourse analysis of targeted web searches about Callisto, JDoe, and Spot, gleaned from their websites and from the Google News database. I focused on items that were published since 2012, when economists Ian Ayers and Cait Unkovic first proposed the use of allegation information escrows for reporting software in the *Michigan*

⁵⁸ Rena Bivens and Anna Shah Hoque, “Programming Sex, Gender, and Sexuality: Infrastructural Failures in the ‘Feminist’ Dating App Bumble,” *Canadian Journal of Communication* 43, no. 3 (2018): 441-459.

⁵⁹ Mitali Thakor, “The Allure of Artifice,” in *Queer Feminist Science Studies: A Reader*, eds., Cyd Cipolla, Kristina Gupta, David A. Rubin, & Angela Willey (Seattle: University of Washington Press, 2017), 141-156.

Law Review.⁶⁰ Drawing on material published between 2012-2019, I paid particular attention to the three prominent themes in reporting apps—empowerment, evidence, and neutrality. Notably, all three platforms articulate survivorship through unraced and frequently ungendered terminology. As will be evident in the analysis below, the resulting color- and gender-evasive “survivor” language encoded into these reporting platforms effectively serves to articulate the survivor as white. Furthermore, the narratives of these platforms subtly naturalize whiteness as an onto-epistemological project—particularly around discourses related to empowerment, evidence, and neutrality.

The Paradoxical Affordances of Reporting Platforms: Whiteness Discourses of Empowerment, Evidence, and Neutrality

Empowerment and the Constraint of Choice and Collective Action: Callisto and JDoe

Both Callisto and JDoe’s stated purpose is to use algorithms that will empower survivors by addressing the problems of repeat offending, the underreporting of assault, and the likelihood that the current methods of reporting will re-victimize survivors. By reconfiguring the unequal power relationships between victims, perpetrators, and authorities, Callisto contends that their product “empowers survivors, providing options and allowing disclosure in a way that feels safe.”⁶¹ Similarly, JDoe states that their product “empowers survivors to act when [they’re] ready, and not a moment before.”⁶²

Addressing the power dynamics that lead to a widespread silencing of survivors is unquestionably a critical step in addressing the social inequalities that are perpetuated in

⁶⁰ Ayers and Unkovic, “Information Escrows.”

⁶¹ Project Callisto, “The Problem,” accessed April 10, 2020, <https://www.projectcallisto.org>.

⁶² JDoe, “Empowering Survivors,” accessed April 10, 2020, <https://jdoe.io/html/features.html>.

experiences of violence. Survivors, too often, are the object of institutional neglect, rather than participating subjects in shaping meaningful pursuits of justice. Callisto and JDoe aim to connect survivors of the same perpetrator and encourage institutions to take these survivors' claims seriously. Both platforms use information escrows to "match" survivors' reports of violence by the same perpetrator in order to render serial perpetration legible to authorities. However, because both Callisto and JDoe operate to offer solutions largely within current civil and criminal judicial structures, their designs constrain survivors' choices in pursuing options outside the legal system and its dominant logic of punitive punishment. Consequently, these platforms reaffirm and naturalize survivor "empowerment" by way of formal punishment that serves to uphold the governance feminism paradigm of legal justice and institutional accountability. It is in this way that the platforms broadly articulate to whiteness, and exemplify how that the overwhelming demographic whiteness of rape reporting platform inventors shapes the strategy and lexicon of this action repertoire.

Callisto offers a normalized picture of reporting that rests on the premise that simply providing better and multiple accounts of serial perpetration will prompt institutions to act quickly and equitably. The narratives used to market these platforms communicate the company's commitment to transforming the experience of reporting and "empowering" survivors by providing them options.⁶³ For example, the design of Callisto Campus affords survivors three options:

(1) Create a record by download[ing] a template so you can create a record of what happened to save on your personal devices, in case you ever want to report; (2) Identify repeat offenders by enter[ing] your perpetrator into 'Matching' to help identify repeat offenders and protect your school community; and (3) Learn about your reporting options, definitions of sexual misconduct and assault, and support services near you.⁶⁴

⁶³ Project Callisto, "The Problem," accessed April 10, 2020, <https://www.projectcallisto.org>.

⁶⁴ Project Callisto, "Callisto Campus," accessed April 10, 2020, <https://www.projectcallisto.org/what-we-do#campus>.

As part of the effort to increase their user-base, Callisto's expansion product will allow victims to use the company's proprietary "matching" algorithm, "under the precondition that, if a match to another case by the same perpetrator is found, a Callisto Legal Options Counselor will reach out to each victim individually."⁶⁵ Here, the form of empowerment that is offered to survivors through choice and collective action is thus, once again, truncated within a broader commitment to the legal system—a system that has already shown its indifference to survivors and has repeatedly enacted violence against communities of color. And, underneath the promise of "choice" is a commitment informed by whiteness, and an assumption that the legal system will effectively work for all survivors if their accounts are simply better articulated.

JDoe's method of providing survivors with choice and a means of collective action operates similarly—while also privileging the priorities of white, middle-class survivors concerned with engaging in collective action to achieve financial recourse through the civil law system. JDoe's core objective is to "link victims of mutual offenders with lawyers"⁶⁶ to streamline the process for reporting misconduct and to assist personal injury firms in finding compelling class action cases. In an interview with *The Washington Post*, Ryan Soscia, who developed JDoe in 2015 after discovering that he and his teammates had been assaulted by the same sports trainer, explains that "there's power in realizing you're not alone. . .and that could be a powerful throughput for the justice system."⁶⁷ While JDoe posits that "cases with multiple plaintiffs are less harrowing for survivors and more likely to win in court"⁶⁸—something that is a

⁶⁵ Project Callisto, "The New Callisto," accessed April 10, 2020, <https://www.projectcallisto.org/what-we-do#new>.

⁶⁶ JDoe, "Sexual Misconduct Today: Is There Justice?" accessed April 10, 2020, <https://jdoe.io/index.html>.

⁶⁷ Marisa Dellatto, "People Are Using New App to Report Sex Assault Anonymously," *New York Post*, September 21, 2018, <https://nypost.com/2018/09/21/people-are-using-a-new-app-to-report-sex-assault-anonymously/>.

⁶⁸ JDoe, "Confront Sexual Misconduct. Are You a JDoe?" accessed April 10, 2020, <https://jdoe.io/index.html>.

popular truism—it similarly relies on the presumption that the civil law system will provide justice if survivors are simply better organized. This belies the fact that even going forward with a class action lawsuit poses its own hurdles. There must still be a representative plaintiff, for example, and while the specific rules governing class action lawsuits vary by state, the civil court judge still holds significant discretion in “certifying the class” so that the case can proceed. This includes the judge finding that the representative plaintiff has suffered the same harm as other members of the proposed class, that there are enough members of the proposed class (e.g., often at least 21 victims), and that a class action lawsuit is the correct way to resolve the claim.⁶⁹

The JDoe interface is designed to expedite submission of basic information needed to construct a class action lawsuit. In contrast to Callisto’s design, which allows survivors to chronicle their assault through open-ended narrative questions, JDoe places major constraints on the user’s method of documentation. The user can only categorize their experiences of violence by using a series of drop-down buttons to select “rape or attempted rape,” “unwanted touching,” or “sexual harassment,” and then specify their relationship to the perpetrator—whether he, she, or they were a partner, family member or guardian, colleague or employer, teacher or coach, acquaintance, or stranger.⁷⁰ The platform does, however, allow users to provide identifying information about the perpetrator, such as a phone number or a link to social media information. Finally, the user is given the choice of whether or not to send an anonymized version of the report to a participating law firm.⁷¹ However, this “choice” is not much of a choice at all, as the guiding purpose of the platform is to link users to civil lawyers who pay for access to survivors’

⁶⁹ Nonetheless, as will be described in the next chapter, sexual assault kit activists have sought civil action to force negligent jurisdictions to test kits.

⁷⁰ JDoe, “Streamlined Litigation,” accessed April 10, 2020, <https://jdoe.io/html/lawyer.html>.

⁷¹ JDoe users can retract the decision to report to law firms, but they cannot edit the content of a report after submission.

names and information.⁷² While Ryan Soscia, JDoe’s developer, argues their platform “circumvents authorities who may not have survivors’ best interests in mind,”⁷³ JDoe effectively sells survivors’ data to civil law firms—and takes a cut of any settlements. Thus, JDoe’s benevolent claims about upholding survivors’ “best interests” quickly come into question.⁷⁴ And, without raising the question of, or accounting for, the cultural logics that contribute to how civil law authorities similarly privilege whiteness, JDoe offers an unexamined endorsement of civil law recourse.

Gold Standard Evidence and the Rhetoric of Neutrality: Talk to Spot

Talk to Spot specifically seeks to “create more inclusive workplace cultures” by “making it safer for employees to speak up and easier for HR teams to take action.”⁷⁵ Spot’s AI interviews employees about incidents of harassment in the workplace, and, according to its co-founder, psychologist Julia Shaw, Ph.D., is programmed to follow the technique of the “cognitive interview” which law enforcement uses to interview crime victims.⁷⁶ The company’s choice to affiliate the cognitive interview with law enforcement is notable, as this communicates the platform’s affinity to state practices of evidence production—rather than to the efforts of victim advocates or even to psychologists whose work on memory was formative in uncovering how trauma can shape survivors’ recall and to the development of the cognitive interview.

However, what is most problematic is the non-profit company’s dubious claim that its AI

⁷² See, for example, Patrick Sorsby, “Our Unique Strategy. Holding Perpetrators Accountable With the Help of JDoe,” *Sorsby Law*, April 10, 2019, <https://www.sorsbylaw.com/blog/post-06.html>.

⁷³ JDoe, “Are You a JDoe,” accessed April 10, 2020, <https://jdoe.io/html/about.html>.

⁷⁴ Emily Shugerman, “New Website Plans To Collect #MeToo Victims’ Data and Sell It,” *The Daily Beast*, January 25, 2019, <https://www.thedailybeast.com/new-website-is-collecting-metoo-victims-dataand-selling-it>.

⁷⁵ Talk to Spot, “The Research Behind Spot,” accessed April 10, 2020, <https://talktospot.com/research>.

⁷⁶ Ibid.

is a completely “unbiased bot” and that “because Spot is a bot and not a human, it cannot judge or assess you.”⁷⁷ In framing the AI as a “neutral mediator,”⁷⁸ Talk to Spot completely fails to acknowledge that bots are never unbiased—as they are trained by people, who encode ideas and values into the system. Ironically, the company asserts that “since humans tend to introduce bias, a bot combined with natural language processing may be able to conduct a cognitive interview more rigorously than a human.”⁷⁹ Yet, Spot “black boxes” its AI by failing to name exactly what biases humans introduce, (e.g., racialized rape myths) and by failing to explain how they train their AI not to reproduce these biases. Indeed, as Ruha Benjamin and Safiya Noble point out about AI bots in general, they often reflect and amplify racial inequalities.⁸⁰

Shaw does, however, articulate that Spot’s AI is attuned to how trauma shapes the way survivors communicate and “how easy it is [for survivors] to not remember important details.” From this understanding, she determined that “people needed a way to contemporaneously create a really high-quality piece of evidence that they could use if they wanted to take it further and make a complaint to their organization.”⁸¹ Shaw is working to redefine Spot as the new “gold standard” in reporting violence, claiming that a record from Spot would be as “high quality as you can get, basically.” Yet, while the Spot AI facilitates the report, the actual outcomes of the report remain contingent on the action of the human HR managers to act on the information that the AI produces.⁸² The company never explains how their system intervenes in the likelihood

⁷⁷ Talk to Spot, “Spot FAQ,” accessed April 10, 2020, <https://talktospot.com/faq/>.

⁷⁸ Stefanie Dorfer and Elspeth Taylor, “AI Takes Bias Out of Workplace Harassment Reporting,” *Stylus*, October 23, 2018, <https://www.stylus.com/ai-takes-bias-out-of-workplace-harassment-reporting>.

⁷⁹ Talk to Spot, “The Research Behind Spot.”

⁸⁰ See Benjamin, *Race After Technology*, and Noble, *Algorithms of Oppression*.

⁸¹ Emily Reynolds, “How Technology is Tackling the Stigma Around Sexual Assault,” *Vice*, March 14, 2019, https://i-d.vice.com/en_uk/article/mbzw9a/technology-sexual-assault-apps-spot-callisto?utm_campaign=sharebutton&fbclid=IwAR248p2CaEQ6-YJkM7_1k9MTC7t0ySp2ZdKGfoGtCmvgNZfu_kRy20V2iy8.

⁸² See Benjamin, *Race After Technology*, and Noble, “A Future for Black Intersectional Black Feminist Technology Studies.”

that the human reviewers of these reports may continue to dismiss computer-mediated reports of harassment based on broader cultural scripts and the whiteness as a presumed neutral dimension of survivorship. Without greater attention to these issues, Spot's AI as an anti-violence tactic does not reform institutional behavior; instead, it attempts to order and discipline survivor behavior to render reports of violence more legible to authorities.

In sum, while these platforms aim to “empower” survivors, they in fact prioritize normative reporting methods and embody the institutional frictions faced by white, middle-class survivors of harassment and violence. In doing so, they reaffirm and legitimate the whiteness discourse that survivors should report their assaults for the primary purpose of engaging formal institutions: by using AI to create the “best account” for HR managers (Spot); by using information escrows to enable survivors to come forward together for legal action (Callisto and JDoe); and by allowing survivors to delay the submission of their reports until they (ultimately) decide to come forward to institutional authorities (Callisto, JDoe, and Spot). Yet, the platforms' political reformations are mostly one-sided, as they fail to substantially change how institutions interact with survivors—changing, rather, only how survivors interact with institutions—and thus fail to fully understand institutions as oppressive structures of power.

As all three platforms ignore the far-reaching effects of race or class in contextualizing the experience of reporting, we must call into question the extent to which these infrastructures can equitably facilitate resource mobilization as a construct of justice. As information infrastructures are situated, contextual, and contingent assemblages, bringing an intersectional perspective into the design process could render evident authorities' power and its relation to survivors. An intersectional perspective could “liberate” reporting platforms to enable survivors' access to a wider range of justice and support options. In short, the efforts to design justice

through rape reporting platforms must not focus on disciplining survivors' behavior but in thinking more critically about the power structures that shape reporting and constructions of justice.

Coding Intersectionality: Rethinking the Design Process with Value-Hypotheses

Design justice as a theory and practice is concerned with the ways in which design reproduces and/or challenges power, and it is committed to rethinking design processes in an effort to center the people who are typically marginalized and adversely affected by design decisions.⁸³ Value-responsible design is a method for citizen-activists to practice design justice by engaging with the ways in which values and ideologies permeate technology, while addressing the ethics, politics, and consequences of their design choices. Bringing intersectionality theory to value-responsible design can further efforts to disengage from universalist design principles that prioritize whiteness and erase the experiences of those who are multiply-burdened under white supremacist, heteropatriarchy, capitalism and settler colonialism.

Value-responsible design is a helpful method for designers to practice intersectionality not only because it centers meaning, ethics, and experience in creating structural change, but also because it is an explicitly non-positivist way to bring “order” to “chaos.” Thus, value-responsible design avoids the false unification of survivors' needs, a framing that fails to account for race, gender, and class hierarchy. By this, I mean that value-responsible design seeks to address the practical problems experienced by multiple publics without claiming that there is a singular “correct” way to do so. In acknowledging and prioritizing the diversity of experiences and

⁸³ Design Justice Network, “Design Justice Network Principles,” accessed April 10, 2020, <https://designjustice.org/read-the-principles>.

knowledges produced through social location or standpoints, value-responsible design acts on the critical need for multiplicity in responding to social problems constituted by a “matrix of domination.”⁸⁴

As an intentionally creative endeavor, questions of design provide an effective way to think through the persistent gendered, classed, and racialized biases that mutually structure institutional responses to sexual and other forms of interpersonal violence. Questions of design can also illuminate ways to engage and center marginalized voices, and create intersectionally-minded interventions that embody empathetic values.⁸⁵ While feminists critique dominant positivistic assumptions to reveal that scholarly epistemologies are never detached, apolitical, and objective,⁸⁶ value-responsible design is a related knowledge-making method that is concerned with how designed objects distribute risks, harms, and benefits among different people. In alignment with the feminist values of reciprocity and empathy, value-responsible design can work to foster design justice in the context of sexual violence, while being attentive to, rather than erasing, the power relationships that shape the experiences of violence. Being attentive to design and values can help act on Safiya Noble’s call to develop “theoretical models that help us better understand the ways that technological practices are intersectionally racialized and gendered.”⁸⁷

And yet attending to design values is not as straightforward as it might first seem. The explicit translation of moral principles into technological affordances is typically viewed as a

⁸⁴ Collins, *Black Feminist Thought*.

⁸⁵ Sasha Costanza-Chock, Chris Schweidler, and Transformative Media Organizing Project, “Toward Transformative Media Organizing: LGBTQ and Two-Spirit Media Work in the United States,” *Media, Culture & Society* 39, no. 2 (2017): 159-184.

⁸⁶ See, for example, Chela Sandoval, “U.S. Third World Feminism: The Theory and Method of Oppositional Consciousness in the Postmodern World,” *Genders* 10 (1991): 1-24; and Angela Davis, *Women, Race, and Class* (New York: Vintage Books, 1981).

⁸⁷ Noble, “A Future for Black Intersectional Black Feminist Technology Studies.”

two-step logic of identifying a value and then applying it to a design problem.⁸⁸ This logic prescribes that designers should first better understand values—e.g., to identify them more precisely; define them more accurately; or discover a wider range of values for the particular problem. After completing this step, the designer can then apply their knowledge of relevant values to design a “thing” or intervention with great certainty. As the two-step logic attempts to break down the design process into discrete parts, its simplicity is psychologically satisfying and appealing. However, the two-step logic falsely presumes that designers can adequately address values separate from action. While this is possible in the abstract, in practice, values are not removed from a situation, nor can they be resolved at a distance from the “design problem.”

In their essay, “Values as Hypotheses,” JafariNaimi, Nathan, and Hargraves challenge the assumption that values can be easily enrolled in the design of an artifact, process, or system.⁸⁹ The authors recommend an improved methodology following philosopher John Dewey’s conceptualization of how ethics and action are entwined through a circular question of action: “What is the situation that demands action?” and “What is the action that the situation demands?” This dialectic avoids the presumption that values can be applied to a problem as pre-established formulas that create clear and proper pathways for action.⁹⁰ Instead, the question of action encourages designers to think of design as an entwined process of defining the problem through action, while defining action through the problem. Within this approach, values become hypotheses for best serving a particular situated social problem.

⁸⁸ Mary Flanagan, Daniel C. Howe, and Helen Nissenbaum, “Embodying Values in Technology: Theory and Practice,” in *Information Technology and Moral Philosophy*, eds., Jeroen van der hoven and John Weckert (Cambridge: Cambridge University Press, 2008): 322-353.

⁸⁹ Nassim JafariNaimi, Lisa Nathan, and Ian Hargraves, “Values as Hypotheses: Design, Inquiry, and the Service of Values,” *Design Issues* 31, no. 4 (2015): 93.

⁹⁰ John Dewey’s work on ethics broke with traditional systems (teleological, deontological, and virtue-based ethics) that sought monocausal accounts of values and duties, arguing for more experimental approaches to account for how conflict renders social actions both precarious and stable. See John Dewey, *Outlines of a Critical Theory of Ethics* (New Providence, NJ: Register Publishing Company, 1891).

Take, for example, the simple design problem of needing to sit down. The shape of a chair is generally the shape of the human body in a sitting position. However, the form and function of a chair's design may shift, based on different value-hypotheses that serve the various situations in which one needs to sit down. Value-hypotheses—such as comfort, movement, durability, cleanliness, or efficiency—help clarify the design problem of needing to sit while simultaneously serving the demands of the situation. Whereas comfort and movement are value-hypotheses that serve the need to sit down at home, durability and cleanliness are value-hypotheses that better serve the need to sit down in public. Consequently, a recliner and bus stop bench embody different value-hypotheses to serve disparate situational needs. However, values not only serve the situation's needs, but they also co-produce knowledge about people who sit in chairs and the desirability of the people in those spaces. Whereas a recliner may promote comfort to enable prolonged sitting or sleeping, a public bench may actively discourage sitting or sleeping—such as with defensive designs that make it impossible for homeless persons to lie horizontally on benches.⁹¹

Value-hypotheses can refocus designs in light of limitations and make interventions more in service to the underlying needs of the situation rather than through the default normative gaze of technoscience which typically privileges whiteness through a Western, White, male, middle-class lens. “Testing” can uncover how logics of whiteness are mobilized through particular values, while thinking of values as *hypotheses*, and can construct the designer's focus to non-determinist ways of thinking about how to intervene in social problems. In other words, if one value-hypothesis fails to serve the situation, the designer can “test” another. For simple

⁹¹ Robert Rosenberger, “How Cities Use Design to Drive Homeless People Away,” *The Atlantic*, June 19, 2014, <https://www.theatlantic.com/business/archive/2014/06/how-cities-use-design-to-drive-homeless-people-away/373067/>.

problems—such as sitting—the concept of values as hypotheses may seem an unnecessarily elaborate way to think about design. For complex problems like sexual violence, however, value-hypotheses are invaluable approaches to link theory and research with engaged community problem-solving and anti-oppression praxis. Like all forms of interpersonal violence, there is no essential or simply gendered experience of sexual violence. Not only are there many ways and social contexts in which to perpetrate sexual violence, but the ways people experience, internalize, cope with, and move past violence are also multiplicative.⁹² In short, for constructing liberatory social change through technological action repertoires, value-responsible design can provide a productive method to confront how anti-violence technologies are situated within a collective structural context.

*Engaging Intersectional Value-Hypotheses
to Craft Liberated Anti-Sexual Violence Technologies*

Reconceiving affordances as value-hypotheses allows citizen-activists to practice and code intersectionality by interrogating situational needs. This exercise can clarify the ways in which seemingly relevant and appropriate value-hypothesis may be too broad, may silence different interest groups, or may provide unclear pathways to move forward. For example, the meanings of *justice* may shift, based on a specific context or on the actors involved in a situation—such as a construction of justice as offender punishment versus community restoration. Even if *justice* seems theoretically self-evident, in practice, it may not be a sufficient principle to engage the problem at hand. More precise value articulations of multiplicity, self-determination, or anti-oppression, for example, may better serve the particular sexual violence intervention and, when

⁹² Richie, “A Black Feminist Reflection on the Antiviolence Movement.”

operationalized into affordances, may produce infrastructures that enable community and victim-centered justice. The takeaway from this framing is that values are not procedural concepts to be routinely applied to a situation, but complex strategies citizen-activists can negotiate to best serve local situations and needs.

Using value-hypotheses informed by intersectionality theory can place citizen-activists in a position to thoughtfully consider the end-users, institutional stakeholders, and the specific action demanded by the situation. Intersectionality theory offers sociohistorical lenses to help explicate the subjectivities, experiences, and social locations of Black women. Specifically, Kimberlé Crenshaw identifies three forms of intersectionality—structural, political, and representational—which can be instructive in strengthening the “question of action” design process.⁹³ *Structural intersectionality* refers to how women of color are situated within overlapping structures of subordination,⁹⁴ making their experiences of reporting sexual violence and reform qualitatively different than those of white women. *Political intersectionality* focuses on how feminist and antiracist projects have often marginalized violence against women of color, and *representational intersectionality* interrogates how the cultural constructions of women of color contribute to their oppression. Intersectionality as a knowledge project is useful not only in analyzing law, policy, and social movements, but also in focusing designers to examine how the intervention strategies they encode affect survivors differently based on complex and situated relations. In addition, this focusing allows designers to identify resistive strategies that can strengthen relationships and understanding across differently situated survivors and allies.

To help anti-violence technology citizen-activists begin to cultivate and incorporate

⁹³ Crenshaw, “Mapping the Margins,” 1295.

⁹⁴ Kimberlé Crenshaw, “Beyond Racism and Misogyny: Black Feminism and 2 Live Crew,” *Feminist Social Thought: A Reader* (1993): 247-263.

resistance strategies that prioritize the experiences, knowledge, and values of survivors on the margins, I have identified a selection of value-hypotheses that can clarify these forms of intersectionality for designers. For my purposes here, I focus on a few key values that reflect concerns of structural, political, and representational intersectionality, although there are certainly other values that could be included.

*Structural Intersectionality and the Values of
Anti-Essentialism and Attention to Social Location*

An intersectional lens of action privileges the standpoints of women of color and shows the ways in which the politics of location shapes both conceptions of reporting justice and the utility of anti-violence interventions. The *politics of location* refers to how women of color simultaneously have a foot in two or more social relations⁹⁵ that produce sometimes conflicting identities and allegiances.⁹⁶ The relationship between women's oppression, class exploitation, and racism shapes the multiple experiences of violence as well as the experiences of gender violence interventions. For example, as Beth Richie describes, the trajectory of the anti-violence movement in the 1980s and 1990s to adopt an "it can happen to anyone" discourse meant that "it can happen to those in power."⁹⁷ Those in power received the most visibility; thus, the "every woman" became a white, middle-class woman, and interventions were developed around those needs. Contemporary anti-violence technologies must avoid this trap.

Given these insights, designers must examine how their design choices become digital action repertoires that serve either racial domination or resistance. During the design process,

⁹⁵ Joan Martin, "The Notion of Difference for Emerging Womanist Ethics: The Writings of Audre Lorde and Bell Hooks," *Journal of Feminist Studies in Religion* 9, no. 1/2 (1993): 39-51.

⁹⁶ Adrien Wing, "Brief Reflections Toward a Multiplicative Theory and Praxis of Being," *Berkeley Women's Law Journal* 6 (1990): 181.

⁹⁷ Richie, "A Black Feminist Reflection on the Antiviolence Movement," 1134.

designers attending to “the situation that demands action” must adopt an understanding of structural intersectionality in order to reject universal design principles that privilege whiteness and, instead, pay attention to the ways in which social location shapes the situated lived experiences of survivors. To do so, designers might explore how a reporting platform reproduces or challenges the matrix of domination at the systems level. Callisto, for example, approaches the “hesitance problem” in reporting assault through the mathematical model of *game theory*: a way of modeling situational conflict among people. Callisto programmers Anjana Rajan and her colleagues describe this approach:

In game theory terms, there is a first-mover disadvantage with high consequences for a victim when accusing a perpetrator. That disadvantage comes from the disclosure and resulting exposure of the victim, opening the victim up to consequences (countermoves in game theory) of retaliation, disbelief by authorities, reputation damage, and stigma. Callisto’s solution. . . eliminates first-mover disadvantage: we enable the likely multiple victims of a perpetrator to know they are not alone and create a path for them to act together. This approach disincentivizes retaliatory countermoves by perpetrators while supporting combined action by victims that reduces disbelief by authorities and likelihood of reputation damage.⁹⁸

Game theory, with its focus on interpersonal conflict in a zero-sum game context, does not offer sufficient theoretical tools to account for how structural inequality shapes the experience of reporting sexual violence—recall that 80% of reports of violence are made by white women. In contrast, an intersectional approach to the “hesitance problem” might produce more liberatory solutions that focus on addressing how social location shapes survivors’ hesitance in engaging with power-holders.

*Political Intersectionality and the Values of Equitable Participation,
Place-Based Practice, and Anti-Oppression*

⁹⁸ See Anjana Rajan, Lucy Qin, David Archer, Dan Boneh, and Tancrede Lepoint Mayank Varia, *Callisto: A Cryptographic Approach to Detect Serial Predators of Sexual Misconduct* (2018), 2-3.

An intersectional question of action reveals and addresses the reliably oppressive nature of inequitable social relations and the ways in which these relations shape the effectiveness of resistive technologies. Citizen-activists who use technology as an action repertoire can draw on intersectionality theory to construct value-hypotheses that resist reduction and are sensitive to the multiple experiences and perspectives of survivors, thus addressing their various justice needs. As survivors have multiple subjectivities, single-axis resistance to institutional neglect can place subordinated survivors in “multiple jeopardy,” in which, as Deborah King argues happened in earlier anti-violence movements, Black women became marginal to the women’s movement and the Black liberation movement.⁹⁹ To help prevent the rise of multiplicative discrimination in anti-sexual violence technology, designers can draw on Audre Lorde’s call for *equitable participation* and *accountability* in social movements, in which there is a sharing of political power.¹⁰⁰ As such, at the front end of the design process, effectively working through the question of action must be a collaborative and iterative process that engages diverse stakeholders to raise questions of equity (who gets to design); beneficiaries (who we design with and for); and accountability (what relationships are produced by design).¹⁰¹

Within anti-sexual violence technology mobilizations, the essential values that Beth Richie articulates as *inclusion*, *equity*, and *anti-oppression* must translate into modes of self-

⁹⁹ See Deborah King, “Multiple Jeopardy, Multiple Consciousness: The Context of a Black Feminist Ideology,” *Signs* 14, no. 1 (1988): 42-72. For example, Barbara Andolsen’s (1986) analysis of the women’s suffrage movement describes how the white women who led the movement leveraged their white privilege to garner political power without identifying how that political power would be accessible to poor women, Black women, and immigrant women. Too often this power dynamic is replayed in contemporary times.

¹⁰⁰ Audre Lorde, *Sister Outsider: Essays and Speeches* (Crossing Press, 2012), 66. As Lorde writes, by failing to be in dialogue with Black women, failing to represent Black women as powerful and independent subjects, feminism denies connections between white women and women of color. A design justice approach to sexual violence must center those impacted by the outcomes of feminist interventions—especially interventions that engage law and governance.

¹⁰¹ Doing so creates more useful and inclusive designs; however, it is important to note that inevitable and practical constraints—such as time, money, institutional access, and culture—inject limitations into a design. See Costanza-Chock et al., “Toward Transformative Media Organizing.”

determination, or the power to determine one's own life.¹⁰² One mode through which to mobilize inclusivity is greater engagement of "submerged networks,"¹⁰³ which are institutions removed from the physical and ideological control of those in power and which supply the solidarity incentives that encourage action.¹⁰⁴ However, designers must take care to avoid tokenistic gestures of inclusion, and offer modes of engagement with power-holders that, as Premilla Nadasen suggests, empowers women of color with the right to interpret their reality and define their justice objectives.¹⁰⁵

Representational Intersectionality and the Value of Storytelling

Representational intersectionality is concerned with how representation contributes to the reproduction of racial and gender hierarchy, as well as how narratives of race and gender support these hierarchies and marginalize women of color. Crenshaw's articulation of the role of representation in contributing to oppression is consistent with Patricia Hill Collins's description of how stereotypes as a mode of domination—in which essentializing narratives or "controlling images" normalize and justify injustice and discrimination.¹⁰⁶ As such, intersectionality scholars suggest the need for people of color to speak about their experiences of oppression through a stance of anti-essentialism that includes principles of intersectionality.¹⁰⁷ As Kimberly Springer articulates, the Black feminist value of storytelling or *memoir* provides space to relay and contextualize experiences that some might think unimportant as counter-stories to the dominant

¹⁰² Richie, "A Black Feminist Reflection on the Antiviolence Movement," 1125.

¹⁰³ Alberto Melucci, *Nomads of the Present: Social Movements and Individual Needs in Contemporary Society* (Philadelphia: Temple University Press, 1989).

¹⁰⁴ Francesca Polletta and James M. Jasper, "Collective Identity and Social Movements," *Annual Review of Sociology* 27, no. 1 (2001): 283-305.

¹⁰⁵ Premilla Nadasen, "Expanding the Boundaries of the Women's Movement: Black Feminism and the Struggle for Welfare Rights," *Feminist Studies* 28, no. 2 (2002): 271-301.

¹⁰⁶ Collins, *Black Feminist Thought*.

¹⁰⁷ Crenshaw, "Demarginalizing the Intersection of Race and Sex."

discourse or master narrative.¹⁰⁸ Similarly, bell hooks articulates how “giving voice” is an expression that reaffirms a collective quest for self-definition and self-determination through self-reflective speech.¹⁰⁹ As research on sexual violence reporting has made clear, those who are most likely to be heard are white, middle-class, heterosexual, and Christian. The demand that survivors’ voices be heard—as captured in the blogosphere’s popular mantra, “listen to survivors”—presumes that the silencing of survivors is equitable across the board in terms of race, class, sexuality, gender identity, and citizenship. As Maria Lugones and Elizabeth Spelman advocate, this means elevating the standpoints of those least likely to be heard in terms of race, class, and citizenship.¹¹⁰

Bringing an intersectional value-hypotheses of storytelling into rape reporting platforms can create space for women of color to disrupt whiteness discourses and controlling images while encoding space for survivors to document their experiences in the pursuit of cultural outcomes. The use of storytelling has been productive in other tactics of electronic contention. Carrie Rentschler describes how young feminists use social media platforms such as Hollaback! (ihollaback.org/about), the crowd-sourced initiative to end street harassment, to respond to and hold key people and institutions accountable within rape culture.¹¹¹ She uses the concept of response-ability—“referring to the capacity to collectively respond to sexual violence and its cultures of racial, gendered, and sexuality harassment”—as a mode of feminist media network-building that re-imagines online criticism and the position of feminist witnesses to rape as a kind

¹⁰⁸ Kelly Springer, “Third Wave Black Feminism?” *Signs* 27, no. 4 (2002): 1059-1082.

¹⁰⁹ bell hooks, *Yearning: Race, Gender, and Cultural Politics* (New York: Routledge, 1990).

¹¹⁰ Maria C. Lugones and Elizabeth V. Spelman, “Have We Got a Theory for You! Feminist Theory, Cultural Imperialism and the Demand for ‘The Woman’s Voice,’” *Women’s Studies International Forum* 6, no. 6 (1983): 573-581.

¹¹¹ Carrie Rentschler, “#Safetytipsforladies: Feminist Twitter Takedowns of Victim Blaming,” *Feminist Media Studies* 15, no. 2 (2015): 358.

of “testimonial.”¹¹² Lena Wånggren further frames digital spaces like Hollaback! as enabling victim-survivors of sexual harassment to engage in storytelling as an action repertoire.¹¹³

Conclusion: Toward Intersectional Reporting Infrastructures

Rape reporting platforms are information infrastructures that facilitate the circulation of anti-violence knowledge in social arrangements and institutional structures. As a digitalized action repertoire, these objects give material form to anti-violence knowledge and politics. However, the contentious knowledge that these, and other anti-sexual violence technologies, mobilize can either work towards or against the liberation of subordinated survivors in institutional contexts.

Certainly rape reporting platforms offer concrete attempts to address the power dynamics of reporting and “spin out” new ways of relating with institutions. Promoted for “survivors” broadly, the mobilization of these platforms seeks to increase institutional accountability by reducing the risk of coming forward—what Callisto terms the “hesitance problem.” However, in operationalizing survivorship in neutral and unmarked terms, the platforms become an implicit space of whiteness. Without accounting for how whiteness operates in cultural constructions of vulnerability and survivorship, these platforms are likely to reproduce racial inequities in rates of reporting. Further, without attention to the ways in which whiteness informs experiences of reporting, it is not possible to dismantle the rape myths that negatively constitute the hegemonic reporting experience, to the detriment of all survivors.

Engaging design justice as a knowing-making practice can clarify how technology does

¹¹² See Kelly Oliver’s *Witnessing: Beyond Recognition* and Donna Haraway’s *Awash in Urine: DES and Premarin in Multispecies Response-ability* for more on “response-ability.”

¹¹³ Lena Wånggren, “Our Stories Matter: Storytelling and Social Justice in the Hollaback! Movement,” *Gender and Education* 28, no. 3 (2016): 401-415.

not neutrally facilitate the flow of information but works to co-produce or challenge power. Using an intersectional approach to value-responsible design can help anti-violence technology citizen-activists disengage from universalist design principles that prioritize whiteness. Intersectionality strengthens the question of action in designing resistive technology by offering race conscious value-hypotheses that can serve the contextual and multidimensional experience of reporting sexual violence.

To demonstrate how, Table 3.1 lists five potential intersectional “questions of action” related to sexual violence reporting. The first column specifies perspectives from intersectionality theory to identify how race, gender, and class structure various situations that survivors face. The second column offers a sample of intersectional value-hypotheses that could serve the situation, and then articulates how these might serve the situation at-hand. By “testing” these value-hypotheses that “name” the unmarked practices of whiteness, we can begin to envision how a liberated reporting platform would become relevant to a wider audience of survivors than is currently offered in existing platforms. As this table begins to show, the use of intersectional value-hypotheses could greatly reshape reporting infrastructures to enable inclusive interventions that address what Gloria Ladson-Billings describes as the “pervasive, daily reality of racism.”¹¹⁴

¹¹⁴ Gloria Ladson-Billings, “Just What is Critical Race Theory and What's it Doing in a Nice Field Like Education?” *International Journal of Qualitative Studies in Education* 11, no. 1 (1998): 7-24.

TABLE 3.1 Potential value-hypotheses and questions of action in race-conscious anti-violence reporting platforms

What's the situation that demands action?		What's the action that the situation demands?
<i>Immediately after an assault</i>		<i>Potential value-hypotheses (actions)</i>
The experience of reporting to police is shaped by intersecting oppressions of race, class, and gender.	Anti-essentialism; Anti-oppression; Knowledge; Multiplicity; Reconciliation; Self-determination; Submerged networks	<p>Engaging with police is not the right choice for everyone based on their social location— platforms can connect survivors to community-based resources that do not engage with state institutions and punitive measures (multiplicity, anti-oppression, submerged networks, and reconciliation).</p> <p>Reporting platforms can provide survivors with information about their options and about the process involved when engaging these options (self-determination and knowledge).</p> <p>If survivors wish to engage the police, reporting platforms can connect survivors to advocates and legal resources in their own communities or “submerged networks” (inclusion, equity, anti-oppression).</p>
Rape myths that are co-constituted through prejudicial beliefs about race, gender, and class are institutionalized or sedimented in the cultural imagination and validated in institutional actions.	Anti-oppression; Collective action; Centering marginality Self-determination; Solidarity; Submerged networks	<p>Reporting platforms must implement algorithmic bias audits to identify which myths and norms it promotes and address them. (While there are not, to my knowledge, any bias audits that exist for rape-reporting platforms, the above analysis offers an entry point for examining how existing structures contribute to the algorithmic management of race.)</p> <p>Reporting platforms can provide space for women to center their experiences outside the adversarial and punitive offender-oriented criminal justice system.</p> <p>Rape myths can be addressed through collective protest against rape, as well as decentralized institutional accountability mobilizations (collective action and submerged networks).</p>
Due to mistrust of the medical field, driven by historic abuse, stigmatization, and trauma to communities of color, survivors may be unsure about whether or not they want to receive medical care or complete a rape kit to preserve forensic evidence.	Equality; Inclusion; Multiplicity; Submerged networks	<p>Reporting platforms can connect survivors to race-conscious rape crisis centers, such as Black Women’s Blueprint, Jenessee Center, and Our House (multiplicity, inclusion, submerged networks, and equality).</p> <p>Reporting platforms can meet survivors where they are to provide health and counseling services through mobile healing units (multiplicity, inclusion, and equality).</p>

TABLE 3.1 CONTINUED

Victims need on-going community and institutional support and access to these resources	Anti-oppression; Kinship; Multiplicity; Self-determination; Solidarity	Reporting platforms can connect survivors to their local “solidarity economy,” including food banks, clothing swaps, meal and self-care kits (solidarity, multiplicity, and kinship). Information technologies can bring together community members to engage in bystander intervention for youth and young women, community accountability teach-ins on the streets, self-defense clinics, and education in order to prevent sexual violence (anti-oppression, self-determination, and solidarity).
Actors in the criminal justice system do not treat rape cases equally or do not take them seriously.	Anti-oppression; Self-determination; Submerged networks	Rape-reporting platforms can offer survivors choice in whether they want to engage the criminal justice system (self-determination; anti-oppression) or connect to non-punitive forms of justice, such as community reconciliation (submerged networks).

This analysis sought to take the stated goals of rape reporting platforms’ seriously while suggesting how engagement with value-responsible design can strengthen the social change goals of these anti-violence technologies. Notably, making use of value-hypotheses to encode intersectionality can move rape reporting platforms away from their current privileging of formal punishment and towards a conception of reporting justice as a mode of *anti-oppression* that promotes individual and community well-being and restoration. Given the criminal justice system’s histories in enacting and promoting whiteness, the desire for formal justice in sexual violence is complex and contested. This should not be the only justice “choice” given to survivors. Thus, reporting platforms can operationalize “choice” by adopting multi-modal systems that enable survivors’ better access to non-institutional support resources, such as “submerged networks.”

As such, there is significant opportunity for citizen-activists to liberate rape reporting platforms by approaching these infrastructures through Nancy Fraser’s concept of “subaltern counterpublic”—spaces in which culturally and discursively silenced groups engage in resistant

and/or critical speech that is ordinarily delegitimized and excluded from the public sphere.¹¹⁵

While subaltern counterpublics may serve to create a space of re-groupment, they also work to “agitate” against the status quo. As such, anti-violence technologies do not need to be enclaves; rather, they can serve to disseminate “liberated” anti-violence discourses into the wider public arena. It is through such a politics of resistance that anti-sexual violence technology can challenge narratives of whiteness that shape the contours of reporting injustice.

However, as Susan Leigh Star reminds us, infrastructures are constant works in progress. They are ontological systems that require up-keep, mending, repairing, and fixing. In the next chapter, I examine how another group of citizen-activists work to mend and repair an institutionalized anti-sexual violence technology—the sexual assault kit—and how through this action repertoire they work to challenge the racial inequalities of the kit. Yet, in their efforts to legally advocate for the imagined forensic knowledge-making power of the sexual assault kit, they legitimate and reify the formal justice response to sexual violence.

¹¹⁵ See Nancy Fraser, “Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy,” *Social Text* 25/26 (1990): 56-80. In articulating the concept of the subaltern counterpublic, Fraser calls on Jurgen Habermas’s “public sphere” as a conceptual resource for critical theory in which the “public sphere” is a theater in modernity where political participation is enacted through the medium of talk, as citizens deliberate about their common affairs; as such, it offers a site for the production of multiple discursive interactions. Fraser (67) describes late-twentieth-century U.S. feminism as constituting one subaltern counterpublic through its diverse array of “journals, bookstores, film and video networks, lecture series, research centers, academic programs, conferences, conventions, and festivals” where feminist women create language like “sexism,” “marital rape,” and “acquaintance rape” to describe their social realities and then use this language to recast feminist women’s needs and identities in the public sphere.

4

Mending the Sexual Assault Kit: Ordering Evidence and Responsibilizing Survivors

The sexual assault kit (SAK) is a collection of evidence gathered through the forensic examination of a survivor's body. The specific contents of a SAK vary by jurisdiction, but generally comprise a cardboard box of swabs, test tubes, slides, forms, and paper envelopes. The process of having the kit completed is a highly invasive medico-legal procedure, lasting between four to six hours, that requires a survivor to be poked, prodded, and swabbed for biological evidence. The forensic examiner collects specimens—such as blood, urine, semen, hair, and fibers—and documents the patient's health and sexual history, the condition of their clothing, and information about the assailant. The examiner then photographs bruising or other injuries and may offer medicine to prevent infection, sexually transmitted infections, or pregnancy. Subsequently, the kit is transferred to the local police department, where law enforcement logs it into evidence.

As described in the introduction, in the U.S., the Citizen Committee for Victim's Assistance (CCVA) developed the early SAK as a feminist positivist intervention to order the state's evidence collection processes and to challenge law enforcement's neglect of assault

cases.¹ During the 1970s and 1980s, these citizen-activists urged hospitals and police to become stewards of forensic science; as a result of this sustained activist pressure, the kit stabilized as a best practice for collecting and preserving evidence, and for improving the quality of medical examiners' care in treating survivors. As the kit institutionalized across the U.S. as an evidence infrastructure,² the view proliferated that rape kit protocols were vital to affirming a survivor's account, identifying perpetrators, prosecuting rape cases, and preventing future assault.³

However, the initial mobilization to "order evidence" has since slipped into campaigns that "responsibilize survivors" ⁴ to manage sexual violence through their willing participation in body surveillance. Calls for responsibilization interpellate survivors through technoscientific and legal norms and moral exhortations about the so-called power of DNA. In a 2017 publication, "Uniting to Solve Sexual Assault Crimes," the National Institute of Justice tells survivors that "a sexual assault kit is the cornerstone of any sexual assault investigation, potentially holding critical DNA evidence for law enforcement."⁵ Similarly, RAINN's website argues:

Many cases of sexual violence rely on firsthand accounts and other evidence that leaves room for interpretation. . . . When you agree to a sexual assault forensic exam and DNA testing, you increase the chances of taking the perpetrator off the streets and preventing any future instances of sexual violence.⁶

Likewise, the website of the student-led organization Know Your IX implores survivors to "try to save anything that might contain the perpetrator's DNA because investigators and

¹ For more on the Vitullo Kit, see Shelby, "Whose Rape Kit?"

² Recognizing that conflicts often arise between multiple participants in the development of technologies, STS scholars Leigh Star and Karen Ruhleder argue, "an infrastructure occurs when the tension between the local and global is resolved" (114).

³ See Wayne County chief prosecutor Kym Worthy's description in the HBO documentary, *I Am Evidence* (2017), at 12:40.

⁴ Responsibilization turns survivors into subjects who consider themselves free and responsible for their actions and the outcomes of their actions.

⁵ Heather Waltke and Blair Ames, "Uniting to Solve Sexual Crimes," *National Institute of Justice*, March 27, 2017, <https://nij.ojp.gov/topics/articles/uniting-solve-sexual-assault-crimes>.

⁶ RAINN, "The Importance of DNA in Sexual Assault Cases," (n.d.), <https://www.rainn.org/articles/importance-dna-sexual-assault-cases>.

medical professionals can collect this and use it to build a case against your assailant.”⁷ While responsabilizing calls invite survivors to cooperate as active partners in managing sexual violence risk, such calls erase the power dynamics that fundamentally shape the circulation of evidence in the criminal justice system.

Given the asymmetrical medical and legal power of the state, responsabilized survivors are cast into a subordinated “partnership” with state actors who typically have superior knowledge of criminal justice processes and who are often empowered to make unilateral determinations about evidence collection under the state’s forensic gaze. Drawing on Foucault’s concept of the “medical gaze,”⁸ STS scholars describe the forensic gaze as the state’s lens to co-produce legal “facts” through the entangled disciplines of science and the law, a lens which offers an imagined sense of control over crime and criminality.⁹ The power of the forensic gaze lies in the practices of observation that generate new forms of knowledge and articulate this knowledge onto the responsabilized survivor’s body.

Through the forensic gaze, medical and legal actors discipline survivors into a normalized paradigm of sexual violence through *forensic storytelling*. STS scholar Corinna Kruse defines forensic storytelling as the process through which pre-trial legal actors place evidence into legally meaningful narratives by drawing on conventional crime scripts to interpret and assemble evidence.¹⁰ “Evidence” is relational in that it is only useful in its way of either supporting or contradicting the cultural narratives deployed in courtroom storytelling.¹¹ As such,

⁷ Know Your IX, “Seeking Medical Care After Experiencing Violence,” accessed April 10, 2020, <https://www.knowyourix.org/survivor-resources/seeking-medical-care-experiencing-violence/>.

⁸ See chapter five in Michel Foucault *The Birth of the Clinic* (1963).

⁹ See Ruth Penfold-Mounce, “Corpses, Popular Culture and Forensic Science: Public Obsession with Death,” *Mortality* 21, no. 1 (2016): 19-35; and also David P. Pierson, “Evidential Bodies: The Forensic and Abject Gazes in CSI: Crime Scene Investigation,” *Journal of Communication Inquiry* 34, no. 2 (2010): 184-203.

¹⁰ Kruse, *The Social Life of DNA*.

¹¹ Lance Bennett, “Rhetorical Transformation of Evidence in Criminal Trials: Creating Grounds for Legal Judgment,” *Quarterly Journal of Speech* 65, no. 3 (1979): 311-323.

forensic storytelling serves as the “normalizing function” of the SAK’s forensic gaze that operates through survivors’ bodies by locating and attributing a “natural reference” for itself. This normalizing process is the means by which the state comes to see people as survivors and perpetrators—or not.

In the context of rape, forensic storytelling is deeply tied to gendered and racialized narratives of assault—particularly the continued political salience of white victimhood that is articulated through rape myths. Recall that rape myths are “attitudes and beliefs that are generally false but are widely and persistently held that serve to deny and justify male sexual aggression against women.”¹² As stereotypes, any specific act of sexual violence may or may not articulate to a rape myth; however, the incidents that conform to the myths are widely publicized and circulated in support of rape myths, while the vast majority of cases that do not conform are frequently overlooked.

Certainly, rape myths are harmful to all women and survivors. However, rape myths grounded in racist myths of sexuality, such as the stereotype that “most rapes are committed by Black men” and “Black women can’t be raped,”¹³ also bolster white racial domination and racism.¹⁴ Thus, while all survivors are likely to have reservations about having medico-legal forensically analyze their bodies, due to feelings of shame, stigma, and fear of repercussion and judgment, racist and classist contours of forensic storytelling places additional hurdles on those victim-survivors who are always already outside the narrative framing of assault. Drawing attention to the role of whiteness in shaping the state’s investigation, Angela Davis describes

¹² Lonsway and Fitzgerald, “Rape Myths: In Review.”

¹³ Aaronette M. White, Michael J. Strube, and Sherri Fisher, “A Black Feminist Model of Rape Myth Acceptance: Implications for Research and Antirape Advocacy in Black Communities,” *Psychology of Women Quarterly* 22, no. 2 (1998): 157-175.

¹⁴ Davis, *Rape, Class, and Rape*.

how the myth of the Black rapist bears responsibility for “the enormous numbers of anonymous rapists who remain unreported, untried, and unconvicted.”¹⁵ As Davis points out, “Although white men who are employers, executives, politicians, doctors, professors, etc., have been known to ‘take advantage’ of women they consider their social inferiors, their sexual misdeeds seldom come to light in court.” Moreover, historian Joanna Bourke, in highlighting the class- and race-based politics involved in the construction of rapists, explains that perpetrators are seen as the product of “defective urban cultures that espouse perverse ideals of masculinity,” even though working-class men by no means have a monopoly on rape.¹⁶ Ironically, however, the working-class survivor is not considered a credible rape complainant—especially if she is a woman of color. As Toni Irving writes, there is “a litany of comments and images throughout history that mark Black women as sexually deviant, lascivious, indiscriminate, and easy.”¹⁷ Such stereotypes of the hypersexual Black woman continue to depoliticize the sexual assault of Black female bodies, diminish their rights, and place them outside of the narrative frames that legitimate entitlement.” As the SAK is a technology whose knowledge production hinges on forensic storytelling, it is through this knowing-making power relationship that contributes to the dearth of state investigation of assault.

The Forensic Gaze: Methods and Practices of Observation

As the normalizing aspects of forensic storytelling are obscured behind the so-called objective gaze of technoscience, the SAK has become a culturally accepted forensic knowledge-making

¹⁵ Ibid, 199.

¹⁶ Bourke, *Rape: Sex, Violence, History* (Berkeley, CA: Shoemaker and Hoard, 2007), 125.

¹⁷ Toni Irving, “Decoding Black Women: Policing Practices and Rape Prosecution on the Streets of Philadelphia,” *NWSA Journal* 20, no. 2 (2008): 108.

technology that scapegoats gendered and racialized power relations. Showing how such elements are embedded within the rape kit's techniques of documentation, protocols, and legal instruments, anthropologist Sameena Mulla describes how sexual assault nurse examiners use photography, forms, and emergency contraception to render legible the legal victim through treatment of her body as "the scene of the crime."¹⁸ Mulla explains that rape myths persist in the institutional memory of the forensic exam through the "social lives of forensic documents, protocols, and legal instruments" as "traces of imaginaries of the relationship between victims and perpetrators, rather than fully articulated stereotypes."¹⁹ For example, rape kit protocols endorse the myth of the racialized stranger assault, as they presume the victim-perpetrator relationship to be that of a stranger, frame the home as a place of healing rather than harm, and gender sexual abuse survivors as female.²⁰

Because the kit's depersonalized practices of observation are cast as "objective," its use obscures the ways that forensic storytelling is fraught with racism and sexism that serves to foster racial inequities in sexual violence investigations. Legal scholar Rose Corrigan describes how the kit's procedures for investigation have become a way to diminish the seriousness of the assault, attack victims' credibility as witnesses, and intimidate witnesses.²¹ In light of police skepticism about sexual assault complainants who fail to resonate with conventional rape stereotypes, Corrigan explains that the kit functions as a "trial by ordeal" that helps establish the validity of assault claims by way of survivors' willingness to subject themselves to forensic examination. In doing so, the examination further articulates to forensic sensibilities endorsed by

¹⁸ Sameena Mulla, *The Violence of Care: Rape Victims, Forensic Nurses, and Sexual Assault Intervention* (New York: NYU Press, 2014).

¹⁹ Ibid, 153-154.

²⁰ Ibid.

²¹ Corrigan, *Up Against a Wall*.

the state, undercutting the therapeutic aspects of the exam.²² In short, the rape kit often serves as a de facto method of survivors' impression management²³ as "police view complainants who refuse forensic evidence collection with high levels of suspicion, describing them as not serious, uncooperative, and not genuine."²⁴ However, as Corrigan and Rees point out, participating in the performative aspects of the SAK does not guarantee that the victim will be vindicated nor that forensic storytelling will render survivors legible to the state. As I will show, even when participating in performances of "proper" victimhood, the centrality of racialized rape myths to forensic storytelling often continues to cast survivors always already coded as suspect as "unrapeable." The distortion of physical evidence occurs in spite of the advertised truth-producing affordances of the SAK's forensic gaze promised through responsabilizing discourses.

Take, for example, the case of Calvin Ray Kelly. For twenty-five years, Kelly, a truck driver, used his knowledge of freeway dark spots to prey upon young, low-income Black women, who would be least likely to be believed by the police.²⁵ In 2007, one of those women, Shawanna Hall, was held by Kelly at knifepoint and raped three times in one hour.²⁶ When she finally escaped, she ran across two lanes of empty highway to flag down a police officer, who drove her to the Kalamazoo YWCA for forensic examination with a SAK.²⁷ Years later, when Detroit law enforcement finally sent ten years' worth of unsubmitted rape kits for testing—an entire warehouse full of kits—Kelly's DNA was found to match eleven assaults committed in

²² Rees, "It Is Not for Me to Say Whether Consent Was Given or Not."

²³ Other studies, such as Alderden (2008), Bouffard (2000), and McGregor, Du Mont, and Myhr (2002) have affirmed that a victim's willingness to complete a SAK impacts law enforcement's perception of the person's claim as credible.

²⁴ Corrigan, *Up Against a Wall*, 936.

²⁵ Matt Mencarini, "11 Rapes, 4 States, 1 Suspect: The 'Extraordinarily Improbable' Defense of Calvin Kelly," *Lansing State Journal*, January 8, 2019, <https://www.lansingstatejournal.com/story/news/2019/01/08/calvin-kelly-rape-investigations-memphis-kalamazoo-st-louis/2462538002/>.

²⁶ Emily Monacelli, "Woman in Trucker's Rape Trial: 'I Thought He Was Going to Kill Me,'" *MLive.com*, September 12, 2017, https://www.mlive.com/news/kalamazoo/2017/09/victim_in_trucker_rape_trial_i.html.

²⁷ Mencarini, "11 Rapes, 4 States, 1 Suspect."

four states between 1985 and 2010. In 2017, a decade after Hall's assault, Kelly was finally tried in a court of law. At the trial, two more of Kelly's survivors testified that he assaulted them in similar ways. Nevertheless, in less than a day of deliberations, the jury of eight women and four men found Kelly not guilty.²⁸ Ten out of twelve jurors were white. Michigan Assistant Attorney General Angela Povilaitis²⁹ said the verdict came down to the jury believing Kelly's testimony over Hall's—despite how the evidence in her rape kit, and so many others, matched his DNA.³⁰ One month later, Hall died of an opioid overdose.³¹

Shawanna Hall's case offers a tragic glimpse into how the racialized storytelling of the forensic gaze serves to obscure the significance of the rape of poor Black women beyond the moment of the forensic exam, throughout the state's investigation. However, Hall's case also draws attention to how local jurisdictions systematically mishandle and misgovern SAKs. In particular, her assault shows that efforts to responsibilize survivors to participate in body surveillance are often made in bad faith, due to the state's practices of what I call *irresponsibilization*—a form of institutional counter-conduct that facilitates the systemic (dis)ordering of forensic evidence. While responsibilized survivors are obliged to participate in the rape kit's forensic gaze, the irresponsibilized state fails to circulate the kits that survivors have completed in good faith. Irresponsibilization serves to uphold the asymmetrical power relations between survivors and the state that affords law enforcement significant discretion in processing kits—a decision shaped by forensic storytelling.

²⁸ Emily Monacelli, "Tennessee Trucker Found Not Guilty in Michigan Rape Case," *MLive.com*, September 21, 2017, https://www.mlive.com/news/kalamazoo/2017/09/calvin_kelly_verdict.html.

²⁹ Povilaitis also led the prosecutions of disgraced gymnastics doctor Larry Nassar.

³⁰ Emily Monacelli, "Tennessee Trucker Found Not Guilty in Michigan Rape Case."

³¹ Kidada E. Williams and Danielle McGuire, "Say Her Name: Shawanna Hall. She is a Hero," *BridgeMi.com*, December 14, 2017, <https://www.bridgemi.com/children-families/say-her-name-shawana-hall-she-hero>.

In this chapter, I examine state irresponsibilization as a practice that reproduces racial inequality through the suppression of SAKs; in addition, I show how citizen-activist efforts—many of which are led by women of color—mobilize against the injustice of irresponsibilization by re-responsibilizing the state in governing sexual violence risk through the re-ordering of evidence. By drawing on public investigations into local SAK governance, I contribute to understandings of the ways in which power is enacted through the SAK by revealing how activists and the state negotiate discourses and practices of responsabilization and irresponsibilization. Further, I demonstrate that despite legal mandates that charge the state with maintaining SAKs, even the most basic preservation of evidence is a highly contested process. Although SAK citizen-activists attempt to repair the knowledge relations of the SAK in order to produce *procedural justice*—whereby investigative processes are fair and transparent to the public—their efforts ultimately serve to uphold the asymmetrical power relationship that is inherent in the state’s investigation of assault.

Irresponsibilization, the (Dis)ordering of Evidence, and the Co-production of Racial Inequality

Irresponsibilization reflects the broader depoliticization of sexual violence by law enforcement and serves to preserve the privilege of official state actors’—especially police and prosecutors’—in exercising extreme discretion in deciding which kits circulate through the justice system. The state’s practices of irresponsibilization to (dis)order the circulation of evidence are most clearly evident in the number of backlogged kits that have been waiting at least 30 days for testing—

conservatively estimated to be between 200,000 and 400,000 kits nationally.³² Beyond the backlog, there are an unknown number of untested kits—referring to kits in police custody never submitted to laboratories for testing.

The failure to maintain even a basic census of SAKs at either the national or local level is a practice of strategic ignorance that sequesters the forensic knowledge contained in rape kits—rendering it inaccessible to survivors who desire the forms of prosecutorial justice afforded by the state’s investigation. Shawanna Hall’s kit was one of the 11,341 forgotten kits uncovered in an abandoned Detroit police warehouse in 2009 by staff in the county prosecutor’s office.³³ Discovery of the Detroit backlog propelled the state’s irresponsibilization into the national spotlight. In November 2009, CBS News reported findings from its five-month investigation into practices of SAK governance across 24 cities and states.³⁴ CBS uncovered over 20,000 kits that were never sent to crime labs for testing and an additional 6,000 were in a queue waiting to be tested.

A consistent theme to emerge from the CBS investigation was the extreme inconsistency across jurisdictions in kit processing times. In Alaska, it took on average 240 days to test a kit; in Arizona, the average was 138 days; Columbus, Ohio turned around kits within 60 days; Kentucky completed preliminary testing within 30 days. The investigation also revealed widespread neglect and cultivated ignorance regarding the SAKs in law enforcement possession. In Louisiana, the state crime lab had 256 kits waiting to be tested—some for as long as eight

³² Rebecca Campbell, Giannina Fehler-Cabral, Deborah Bybee, and Jessica Shaw, “Forgotten Evidence: A Mixed Methods Study of Why Sexual Assault Kits (SAKs) are Not Submitted for DNA Forensic Testing,” *Law and Human Behavior* 41, no. 5 (2017): 454.

³³ Barbara Ross, “Manhattan DA Cyrus Vance, ‘Law & Order’ Actress Mariska Hargitay Announce \$35 Million Fund for Rape Kit Tests,” *NY Daily News*, November 12, 2014, <https://www.nydailynews.com/new-york/manhattan-da-mariska-hargitay-unveil-35m-rape-tests-article-1.2008693>.

³⁴ Armen Keteyian, “Exclusive: Rape in America: Justice Denied,” *CBS News*, November 9, 2009, <https://www.cbsnews.com/news/exclusive-rape-in-america-justice-denied/>.

years. Doug Cain, a spokesman for the Louisiana lab, reported that they “don’t really have a good answer” as to why the kits were backlogged, although he cited financial resources as one barrier. The sheriff in Jacksonville, Florida, stated that he could not even produce a simple report providing basic information about which kits in their possession had or had not been tested because the office failed to maintain that information. Similarly, in Virginia, spokespeople for the state crime lab did not know the age of their oldest backlogged kit. Certainly, practices of irresponsibilization deeply and negatively affect all survivors; however, the widespread failure to test SAKs allows racial bias in sexual assault investigation to proliferate.

Although there is no national database of SAKs from which to quantify precise patterns of racial discrimination, investigations into local rape kit backlogs suggest that both the misogyny and racism of forensic storytelling shapes the disordering of evidence. In Detroit, the 11,341 abandoned rape kits—some dating back to the 1980s—belonged disproportionately to women of color. Although 54% of Wayne County is white,³⁵ an astounding 81% of the untested SAKs belonged to African American women.³⁶ In 2015, researchers investigated how law enforcement had handled 1,268 of these untested kits, finding that each was associated with a case where law enforcement had not bothered to test the forensic evidence, and were also cases closed by Detroit law enforcement after minimal investigation. Through interviews with stakeholders and reviews of police reports, these researchers found police expressed consistently negative and victim-blaming beliefs about complainants, noting:

Rape survivors were often assumed to be prostitutes and therefore what had happened to them was considered to be their own fault. Adolescents were assumed to be lying, trying to avoid getting into trouble by concocting a false story about being raped. Police said

³⁵ United States Census, “Quick Facts: Wayne County, Michigan,” 2018, <https://www.census.gov/quickfacts/waynecountymichigan#qf-headnote-a>.

³⁶ Claire Martin, “Detroit Businesswomen Team Up to Get Rape Kits Tested,” *The New York Times*, November 7, 2015, <https://www.nytimes.com/2015/11/08/business/detroit-businesswomen-team-up-to-get-rape-kits-tested.html>.

that those who had been assaulted by friends and acquaintances had “got what they got” because they had chosen to associate with the perpetrator. Case after case was labeled “a deal gone bad” or otherwise dismissed as “not really a rape,” and these attitudes directly affected law enforcement personnel’s decisions regarding whether to submit a rape kit for forensic testing.³⁷

Comparable practices were found in Baltimore, a majority Black community. During the 2009 CBS investigation into rape kits, the Baltimore police department reported having no way to estimate how many untested kits were in storage, and Crime Lab Director Francis Chiafari reported that reasons for not testing kits included “non-probative evidence/cases, uncooperative victim, false statements resulting in unfounding,³⁸ detective not requesting processing for investigative reasons, and reclassification of the crime type.”³⁹ However, a 2016 Department of Justice (DOJ) investigation into the practices of the Baltimore Police Department found racialized patterns of unconstitutional conduct. Beyond Baltimore law enforcement’s systematic under-investigation of assaults, the DOJ found that when investigations were conducted, they were “marked by practices that significantly compromise the effectiveness and impartiality of the police response to sexual assault.”⁴⁰ This included “interrogating victims, questioning women in emergency rooms, threatening to ‘hook up’ women reporting sexual assault to lie detectors, and not informing victims about the status of their cases.”⁴¹ The DOJ also found numerous instances in which Baltimore police officers used racial slurs or exhibited bias against the Black community, with impunity.

³⁷ Rebecca Campbell, Giannina Fehler-Cabral, Steven J. Pierce, Dhruv B. Sharma, Deborah Bybee, Jessica Shaw, Sheena Horsford, and Hannah Feeney, *Detroit Sexual Assault Kit (SAK) Action Research Project (ARP), Executive Summary* (Washington, DC: National Institute of Justice, 2015).

³⁸ “Unfounding” is a police term that indicates the investigating office does not believe a crime took place.

³⁹ Laura Strickler, “Thousands of Rape Kits Wait to be Tested,” *CBS News*, November 10, 2009, <https://www.cbsnews.com/news/thousands-of-rape-kits-wait-to-be-tested/>.

⁴⁰ U.S. Department of Justice, Civil Rights Division, *Investigation of the Baltimore City Police Department* (2016).

⁴¹ *Ibid*, 124-125.

In Memphis, in 2013, almost 140 years after Black women became the first anti-rape activists to testify in front of Congress following the Memphis Riot of 1866, two anonymous African American women—Jane Doe 1 and Jane Doe 2—filed a class-action lawsuit against the city, arguing that race was a deciding factor in which kits were tested⁴² and that the city had “violated their 14th Amendment equal protection rights by maintaining a policy or custom of providing less protection to rape victims than victims of other crimes, due to their gender.”⁴³ In 2000, Jane Doe 1 was asleep at home with her children when an intruder broke in, bound her, and sexually assaulted her. Jane Doe 1 reported her assault to the police, was taken to the local rape crisis center for treatment, and received a SAK, which was transferred to the Memphis police. Over the next thirteen years, the kit was never submitted for testing. Likewise, Jane Doe 2 was raped in 2003 and her kit was never submitted for testing.

Their lawsuit alleges that the Memphis Police Department leadership knew that theirs—and as many as 15,000 other rape kits—were not being tested, resulting in “spoliation of evidence.” The lawsuit asserts that the city “knew about the [failure to test] and facilitated it, approved it, condoned it and/or turned a blind eye to it.”⁴⁴ In doing so, the lawsuit claims that “the city’s deliberate indifference, willful and wanton conduct created a danger of an increased risk of harm to the victims of sexual abuse, which are disproportionately women, by fostering an environment whereby the perpetrators of sexual assault were allowed to continue to prey on victims without fear of investigation by the Memphis Police Department.”⁴⁵ While U.S. District

⁴² Stephanie Scurlock, “Women Claim Race Played a Factor in Rape Kit Testing,” *WREG.com*, September 12, 2014, <https://wreg.com/news/women-claim-race-played-a-factor-in-rape-kit-testing/>.

⁴³ Cameron Langford, “Sixth Circuit Reinstates Rape Kit Claims Against Memphis,” *CourthouseNews.com*, June 28, 2019, <https://www.courthousenews.com/sixth-circuit-reinstates-rape-kit-claims-against-memphis/>.

⁴⁴ Jane Doe, Individually and as Class Representative of all Others Similarly Situated, v. City of Memphis, 13 (United States District Court for the Western District of Tennessee Western Section December 20, 2013).

⁴⁵ *Ibid.*

Court Judge John Fowlkes Jr. allowed the Jane Doe plaintiffs to proceed with their case, he never granted them class action certification.

In 2017, retired police lieutenant Cody Wilkerson testified against the Memphis Police Department, claiming that supervisors condoned neglect and incompetence in sexual assault investigations.⁴⁶ This acknowledgement infers the racialized sexism of disparate treatment, as Blacks make up 63% of the population of Memphis.⁴⁷ The lieutenant further testified that detectives closed assault cases without sending rape kits for testing or following up on leads.⁴⁸ Indicting police leadership, Wilkerson testified that on the day that Colonel Marcus Worthy took over investigative services, Worthy declared, “The first thing we need to do is start locking up more victims for false reporting.” Rather than a focus on apprehending perpetrators or solving cases, prosecuting false reports was Worthy’s “goal and mission when he became the colonel over investigative services.” Subsequently, untested rape kits piled up, and, more insidiously, when kits were tested and DNA matches were found, police did not pursue the cases. As of May of 2019, survivors in at least seven other cities—Austin, San Francisco, Houston, Greenwich, Connecticut, and the Village of Robbins, Illinois—have filed lawsuits against the police to improve their practices.⁴⁹

Taken together, these investigations shed light on how the state’s systemic (dis)ordering of evidence not only violates the trust of responsabilized survivors but is a contemporary iteration

⁴⁶ Marc Perrusquia “Former Memphis Cop Testifies City Neglected Rape Cases,” *Commercial Appeal.com*, November 8, 2017, <https://www.commercialappeal.com/story/news/2017/11/08/r-memphis-cop-testifies-city-neglected-rape-cases/844176001/>.

⁴⁷ United States Census, “Quick Facts: Memphis City, Tennessee,” 2018, <https://www.census.gov/quickfacts/memphiscitytennessee>.

⁴⁸ Bridget Chapman, “Former Memphis Police Lieutenant Testifies About Negligence, Cover-Up n Sex Crimes Unit,” *WREG.com*, November 8, 2017, <https://wreg.com/news/former-memphis-police-lieutenant-testifies-about-negligence-cover-up-in-sex-crimes-unit/>.

⁴⁹ Valeriya Safronova and Rebecca Halleck, “These Rape Victims Had To Sue To Get The Police To Investigate,” *New York Times*, May 23, 2019, <https://www.nytimes.com/2019/05/23/us/rape-victims-kits-police-departments.html>.

of the historical efforts to disproportionately limit the investigation of Black women's assaults. However, beyond the neglectful shelving of SAKs, the state's irresponsible practices have had a secondary effect—to responsabilize some citizen-activists to re-order and to reclaim the means of sexual violence evidence production. This form of “responsibilization” has come not through moral exhortations, but through the state's inaction that has led SAK activists, as a mobilized public, to “become responsible” for ordering the chaos of SAK governance.

Countering Irresponsibilization with Alternative Evidence Production Agendas

Compared to the rapid, low-cost processing of biological data available in the at-home DNA testing industry—represented by popular products such as 23andMe, which launched in 2006—the SAK is a kind of undone forensic science⁵⁰ characterized by the systemic absence of forensic testing despite survivors' clear interest in having their kits tested to answer technoscientific legal questions. In the context of the SAK, undone forensic science is part of a broader politics of sexual assault knowledge in which multiple, competing groups struggle over the construction and implementation of alternative evidence production agendas.

Activists efforts to order the state's practices of irresponsibilization through alternative evidence production agendas have focused on three strategic mobilizations: challenging the cost barriers to testing kits; preserving the right to retain a kit at least through the statute of limitations; and creating improved tracking with electronic and RFID technology. These

⁵⁰ As David Hess describes, “undone science” is characterized by the absence or empty space of research that did not take place or took place in low quantity compared to research funded by industry. This absence is in concert with the view that changes in practices and technologies are not needed, and that mobilized publics have an interest in having scientific questions answered. See David J. Hess, “Undone Science, Industrial Innovation, and Social Movements,” in *The Routledge International Handbook of Ignorance Studies*, eds., Linsey McGoey and Matthias Gross (London, Routledge, 2015), 141-15.

efforts—which stem from both state and nonstate actors—reveal the textured and multiple power relations that are at play in sexual assault forensic science. As with other historic sexual violence activism,⁵¹ women of color have taken the lead in challenging the (dis)ordering of SAK evidence.

Challenging the Cost Barrier to Testing

The chief institutional excuse and complaint in not testing SAKs is regarding the cost. On average, the cost to test a kit is between \$1,000 and \$1,500.⁵² While local funding priorities shape jurisdictions' resources, communities that have been disinvested in by local governments face even greater hurdles. Some state officials have worked to move past cost barriers in order to get undone forensic science done. For example, when the abandoned rape kits were found in Detroit, Kym Worthy, the chief prosecutor of Wayne County, vowed to have all the kits tested—even those beyond the statute of limitations. As funding was a significant barrier, Worthy negotiated the cost of processing one kit from \$1,500 to \$490.⁵³ Remarkably, her negotiation reduced the cost of testing kits from \$17,011,500 to \$5,557,090. Yet the Detroit government still could not come up with enough funds to process the kits.

Eventually, Kym Worthy approached the Michigan Women's Foundation for help. Together, they formed the coalition "Enough Sexual Assault in Detroit" (Enough SAID) in collaboration with the Detroit Crime Commission. Enough SAID then launched the African American 490 Challenge to crowdsource the necessary resources and to mobilize the public to contest the de-circulation of SAK evidence. It was through this public-private partnership that

⁵¹ See, for example, Rosén, *Terror in the Heart of Freedom*; and McGuire, *At the Dark End of the Street*.

⁵² End the Back Log, "Why the Backlog Exists," accessed April 10, 2020, <http://www.endthebacklog.org/backlog/why-backlog-exists>.

⁵³ Martin, "Detroit Businesswomen Team up to Get Rape Kits Tested."

ultimately allowed for the testing of abandoned kits and the subsequent trial of Calvin Ray Kelly. Although Shawanna Hall's attacker was found not guilty, the 490 Challenge is nonetheless making a difference. Kim Trent, an assault survivor and president of the 490 Challenge, created the fundraiser in order to change cultural narratives that contribute to racialized forensic storytelling.⁵⁴ Trent declared, "The fact there were so many untested, abandoned rape kits shows just how little people care about black women and girls. ... Black women are complete throwaways."⁵⁵ As of November 2015, Enough SAID had raised over \$1.3 million in private donations and \$7.6 million in public financing.⁵⁶ In 2016, artist Erykah Badu donated the proceeds from her Detroit concert to the 490 Challenge.⁵⁷ At least one other state has since followed Michigan's crowdsourcing model. In 2017, Texas State representative Victoria Neave authored and passed House Bill 1729 to allow Texans to contribute to the cost of rape kit testing when applying for and renewing driver's licenses.⁵⁸ In less than a year, the program raised more than \$250,000.

Preserving the Right to Retain a Kit

As responsabilized activists have been successful in mobilizing the state to test kits, law enforcement have revealed they not only sequestered but destroyed untested kits—sometimes

⁵⁴ Kidada E. Williams and Danielle McGuire, "Raped and Left on the Road, She Said #Metoo. Jurors Said 'No, Not You,'" *BridgeMI.com*, December 14, 2017, <https://www.bridgemi.com/children-families/raped-and-left-road-she-said-metoo-jurors-said-no-not-you>.

⁵⁵ Ibid.

⁵⁶ Martin, "Detroit Businesswomen Team up to Get Rape Kits Tested."

⁵⁷ Chris Riotta, "Erykah Badu Donates Detroit Concert Proceeds to Help Process Untested Rape Kits," *Mic.com*, July 12, 2016, <https://www.mic.com/articles/148545/erykah-badu-donates-detroit-concert-proceeds-to-help-process-unttested-rape-kits>.

⁵⁸ Jim Malewitz, "New Law Lets Texas Drivers Help Tackle the State's Rape Kit Testing Backlog," *Texas Tribune*, September 18, 2017, <https://www.texastribune.org/2017/09/18/how-texas-drivers-can-help-texas-tackle-its-rape-kit-testing-backlog/>.

illegally.⁵⁹ In 2013, in Aurora, Colorado, law enforcement disrupted a sexual assault prosecution when they destroyed a five-year-old rape kit. A detective identified a database match between crime scene DNA and an offender's DNA profile. When he went to pick up the rape kit, however, it no longer existed.⁶⁰ Unfortunately, many kits do not even make it to prosecutors or police. An open records request to the New York City Health and Hospitals Corporation (HHC) revealed that between 2012 and 2017, about 20% of all collected kits (840 of 4,128) were destroyed and never sent to the New York Police Department.⁶¹ The New York City HHC has the highest market share of low-income patients in New York.⁶² Within its public health facilities, Bellevue, Jacobi, and Lincoln hospitals performed the highest number of forensic examinations. Bellevue, which serves more than 80% of New York City's medically underserved population, destroyed more than 43% of kits (216 of 497). Jacobi destroyed 29.6% of its kits (121 of 408); Lincoln destroyed 38.8% of its kits (154 of 397).⁶³ This kind of widespread destruction of sexual assault evidence was attributed to the lack of clear protocols for preserving evidence.

As of 2016, no state had yet provided survivors the right to have police retain their SAK at least until the statute of limitations expired.⁶⁴ Amanda Nguyen, an assault survivor and the CEO and founder of Rise, a nonprofit that has challenged the destruction of rape kits, is working

⁵⁹ Tyler Kingkade, "Some States Throw Untested Rape Kits in the Trash. These Survivors Want to Change That," *Huffington Post*, February 23, 2016, https://www.huffpost.com/entry/untested-rape-kits-in-trash_n_56cb4e5ee4b041136f17b087.

⁶⁰ Jessica Glenza, "Victims' Hopes for Justice Fade as Rape Kits are Routinely Ignored or Destroyed," *The Guardian*, November 10, 2015, <https://www.theguardian.com/society/2015/nov/10/sexual-assault-rape-kit-backlog-ignored-destroyed>

⁶¹ Open records request from Ms. Vanessa Nason to NYC Health and Hospitals. (October 27, 2017). "Re: Freedom of Information Request – Record(s) of Interest – Number of: (1) sexual assault evidence collection kits ("rape kits") performed from January 2000 to the date of this request; (2) rape kits sent to law enforcement agencies; and (3) rape kits destroyed and how long they spent in storage."

⁶² New York City Health and Hospitals Corporation, *2013 Community Health Needs Assessment and Implementation Strategy: Jacobi Medical Center* (New York: New York City Government, 2013).

⁶³ Ibid.

⁶⁴ Kingkade, "Some States Throw Untested Rape Kits in the Trash."

to change that. Nguyen mobilizes around the knowledge-claim that “in no other crime does evidence get destroyed.”⁶⁵ In 2013, Nguyen was assaulted at Harvard and received a SAK. Even though the Massachusetts statute of limitations is fifteen years, the police department told her that the kit would be destroyed after six months if she did not submit an extension request. Every six months, she was required to resubmit an extension,⁶⁶ through which she says “the system essentially makes me live my life by date of rape.”⁶⁷ Nguyen is attuned to the racialization of sexual violence and has asserted that, like Black women, “Asian American women are subject to hypersexualization, which contributes to sexual violence.” As she describes:

‘Yellow fever,’ the objectification of Asian female bodies and the stereotype that Asian women are submissive, is an example of this. The exotification of our bodies dehumanizes us and that dehumanization creates a greater chance for sexual violence.⁶⁸

In 2016, Nguyen lobbying helped to pass the federal Sexual Assault Survivors’ Bill of Rights, which guarantees certain legal protections for survivors, including that they are to be informed of their rights by law enforcement; they have access to a counselor and rape kit; they are notified about the forensic results of a kit before it is destroyed; and the rape kit is preserved for the duration of the statute of limitations or until the resources are available to test it.⁶⁹ This federal legislation is intended to serve as a model for state legislation. Nguyen’s nonprofit is currently working on passing a survivors’ bill of rights in every state. As of 2018, her efforts

⁶⁵ Vanessa Nason, “Public hospitals in NYC have destroyed over 800 rape kits since 2012,” *Vice*, November 13, 2017, https://www.vice.com/en_us/article/d3d5jz/public-hospitals-in-nyc-have-destroyed-over-800-rape-kits-since-2012.

⁶⁶ Amanda Nguyen has not shared whether her rape kit has ever been tested, nor if she is still requesting extensions to have her kit tested.

⁶⁷ Molly Redden, “Meet the 24-Year-Old Who Could Change How the U.S. Handles Sexual Assaults,” *The Guardian*, February 23, 2016, <https://www.theguardian.com/society/2016/feb/23/sexual-assault-survivors-rape-kits-us-senate-bill-white-house>.

⁶⁸ Alanna Vagianos, “The Rape Survivor Who Turned Her Activism into a Nobel Peace Prize Nomination,” *Huffington Post*, July 20, 2018, https://www.huffpost.com/entry/rape-survivor-nobel-peace-prize-nomination_n_5b51e9a8e4b0fd5c73c49f7f.

⁶⁹ *Ibid.*

have been successful in eleven states: California, Idaho, Maryland, Massachusetts, New York, Oregon, South Dakota, Virginia, Vermont, Utah, and Washington.⁷⁰

Tracking Kits with RFID Technology

The state's practices of strategic ignorance increase the opacity of SAK circulation that serves to reduce the state's accountability to survivors. By making the testing status of rape kits more transparent, responsibilized activists attempt to increase law enforcement accountability. In 2016, Idaho passed a law that created the first sexual assault kit tracking system in the country, and, in 2017, Idaho became the first state to implement a nationwide tracking system. The law helps to increase the transparency of how forensic evidence circulates in the criminal justice system, allowing survivors, medical professionals, and law enforcement to know the status of the kit. This law requires that after examination, survivors and state actors be provided with the kit's individual tracking number (e.g., similar to a UPS or FedEx tracking number). Survivors are also given access to a SAK tracking portal that records the kit's progress through the criminal justice system: when it enters into the custody of law enforcement; when it is sent to the lab for testing; when the evidence is entered into Combined DNA Index System (CODIS); and when it returns a match. The law mandates that kits be kept for 55 years and requires Idaho police to publish a report on the status of kits.

This law seems to have had some productive impact. Investigative reporting by the Idaho Press-Tribune found that from 2010 to 2015, the Twin Falls police submitted only 23% of kits for testing, and the city of Nampa submitted only 10% of its kits.⁷¹ According to the 2018 report,

⁷⁰ Rise, "Our Progress," accessed May 30, 2019, <http://www.risenow.us/our-progress/>.

⁷¹ Ruth Brown, "Many Rape Kits Go Untested in Canyon County," *Idaho Press-Tribune*, November 8, 2015, https://www.idahopress.com/news/many-rape-kits-go-untested-in-canyon-county/article_c4cc7ff8-7e9f-5eee-afaf-881087d006d6.html.

from 2016, the first year of the tracking system, to 2018, the number of DNA samples eligible for analysis in Idaho crime labs increased by 161.5%.⁷² Other states have adopted Idaho's system, including Utah and Arkansas, and other states have developed similar proprietary systems—including Michigan's new tracking system, Track-KitTM,⁷³ which was implemented across the state in 2019 and is launching in Texas, Arizona, Nevada, and Washington.⁷⁴

The Consequences of Undone Forensic Science

One positive result of efforts to challenge the state's irresponsibilization has been the production of knowledge about the behavior of rapists; this new knowledge challenges the conventional narratives of forensic storytelling which rely on rape myths. As jurisdictions test backlogged kits, crime labs are finding that perpetrators of both stranger and non-stranger assaults are likely to be serial assaulters.⁷⁵ For example, a multiyear investigation by Cleveland reporters Rachel Dissell and Leila Atassi reveals that the Cleveland Police Department "found" 4,000 untested rape kits in 2011.⁷⁶ When those kits were finally submitted for testing, authorities identified more than 200 serial rapists who are responsible for at least 600 rapes.⁷⁷ As the Memphis lawsuit about bias in rape kit testing works its way up the court system, as of June 2018, testing of the city's backlog has resulted in indictments against 312 suspects—186 of whom have been identified by

⁷² Madeleine Carlisle, "A New System to Ensure Sexual-Assault Cases Aren't Forgotten," *The Atlantic*, April 7, 2019, <https://www.theatlantic.com/politics/archive/2019/04/many-states-are-adopting-rape-kit-tracking-systems/586531/>.

⁷³ The Track-KitTM platform launched in 2018.

⁷⁴ Carlisle, "A New System to Ensure Sexual-Assault Cases Aren't Forgotten."

⁷⁵ Campbell et al., *Detroit Sexual Assault Kit (SAK) Action Research Project (ARP)*.

⁷⁶ End the Backlog, "An Interview with Rachel Dissell and Leila Atassi," April 14, 2014, <http://www.endthebacklog.org/blog/interview-rachel-dissell-and-leila-atassi>.

⁷⁷ Rachel Dissell, "To Catch a Serial Rapist: 6 Lessons Learned from Testing Decades of Rape Kits," *Cleveland.com*, March 20, 2015, https://www.cleveland.com/rape-kits/2015/03/6_lessons_we_can_learn_to_bett.html.

law enforcement and 51 of whom have been implicated in more than one case. Similarly, the testing of backlogged and unsubmitted kits in Detroit identified 817 serial rapists.⁷⁸

However, while the policy-based tactics of citizen-activists to counter the state's irresponsibilization are important for survivors seeking procedural justice, they are nonetheless implicated in state efforts to uphold the asymmetrical power relationships of the SAK. Two short-lived efforts to develop an at-home kit in 2020, the PRESERVEkit and MeToo Kit, which would have placed survivors in greater control of forensic knowledge production expose how medical and legal actors remain committed to retaining state power and control.

The Limits of Re-Ordering Forensic Evidence: Commitment to the Power Relations of the SAK

The very notion of a self-administered or “at-home” SAK shows how some citizen-activists are beginning to imagine a participatory forensic science in which responsabilized survivors become medico-legal actors who seek control over the forensic knowledge produced from their bodies. A self-administered kit addresses a core problem that many survivors face: the problem of simply gaining access to a sexual assault forensic exam and then receiving up-to-date, trained care.

In 2016, the Government Accountability Office published a report that identified systemic problems in the provision of sexual assault exams. The report detailed widespread problems in providing nurses with forensic training and in paying for trained examiners to be on call at hospitals. The study also revealed the extraordinarily low retention rates in forensic nursing, suggesting that as few as 8% of trained examiners continue to practice after two years.⁷⁹

⁷⁸ Josh Saul, “Untested Rape Kits Hid 817 Serial Predators in Detroit, Tens of Thousands More Concealed in Backlog Across U.S.,” *Newsweek*, December 19, 2017, <https://www.newsweek.com/rape-kit-untested-sexual-assault-serial-rapist-detroit-prosecutor-nation-752440>.

⁷⁹ U.S. Government Accountability Office, *Sexual Assault: Information on Training, Funding, and the Availability of Forensic Examiners: Report to Congressional Requesters* [GAO-16-334].

With such high turnover, one result is that fewer than 20% of U.S. hospitals have even one forensic nurse on staff.⁸⁰ When there is no forensic nurse on staff, hospitals can turn away survivors, leaving them with few to no other options.

This problem of accessing care is amplified in rural areas, where rates of assault are highest and where survivors are least likely to have access to a sexual assault exam. In rural Alaska, rates of assault have reached unprecedented levels.⁸¹ Studies suggest that more than four out of five Alaska American Indian and Native women will experience sexual violence.⁸² Yet, accessing care is a burden in rural areas where survivors must travel by plane to receive an exam.⁸³ According to the National Indian Country Clearinghouse on Sexual Assault (NICCSA), “victims from rural areas must sometimes wait days for the next available flight or transportation to obtain help. Those electing to make this journey are often required to refrain from changing clothes or showering for days so that potential forensic evidence is not damaged or lost.”⁸⁴ For these survivors, the emotional and financial cost of seeking care is intensified, as survivors must isolate themselves from their local friends, family, and support system. They must also take time off work and arrange for care of children or other dependents. It is not surprising, then, that many rural survivors choose not to pursue this journey.

In the context of these systemic problems, a self-administered kit promises increased access to forensic science. Retired FBI Agent Jane Mason developed the PRESERVEkit™ for

⁸⁰ Of the 5,273 acute care hospitals in the United States with emergency departments in 2015, only about 17% had Sexual Assault Forensic/Nurse Examiner (SANE/SAFE) Programs. See: Emergency Medicine Network (2017).

⁸¹ Although the indigenous population comprises only 20% of the state’s population, they represent a disproportionate 54% of all reported assaults in the state. See: National Indian Country Clearinghouse (2019a).

⁸² Indian Law Resource Center, “Ending Violence Against Native Women,” accessed April 10, 2020, <https://indianlaw.org/issue/ending-violence-against-native-women>.

⁸³ Natalie Brand, “Many Hospitals Don’t Have Rape Kits. Proposed Legislation Aims to Change That,” *CBS News*, May 14, 2019, <https://www.cbsnews.com/news/many-hospitals-dont-have-rape-kits-proposed-legislation-aims-to-change-that/>.

⁸⁴ National Indian Country Clearinghouse, “SAFESTAR in Alaska,” 2019, <https://www.niccsa.org/safestar-in-alaska/>.

those survivors who decide not to proceed to a medical facility following an assault (Figure 4.1). The short-lived PRESERVEkit became available to the public on Amazon for \$29.95 on August 29th 2019, to provide “forensic tools and step-by-step instructions for survivors to collect evidence on their own terms,”⁸⁵ evidence that could be used “at a later date within the judicial system.”⁸⁶ The product’s website urged visitors that “preserving the evidence empowers survivors with the option to come forward with evidence of the crime in a month, a year, a decade, or longer.” The MeToo Kit⁸⁷ intended to offer survivors a comparable option—although it is important to note that the product never left the development stage (Figure 4.2). Twenty-three-year-old Madison Campbell developed the idea following her own assault, with the mission to “help survivors of sexual assault who do not have the ability or are willing to go to the police or the hospital to collect that time sensitive DNA evidence.”⁸⁸ Campbell launched a website in April 2019 to collect emails from potential users as a first step in developing her kit.⁸⁹ According to her website, “MeToo stands on the principle that access to resources should be universal and that survivors should be believed. We are here to make the difficult process of documentation after an assault as painless as possible.”⁹⁰

⁸⁵ Jane Mason @jmasonxbi, “We are Pleased to Announce that we are now Live on Amazon Sexual Assault Evidence Collection Kit,” Tweet, August 29, 2019, <https://twitter.com/jmasonxbi/status/1167190215959744513>.

⁸⁶ Preserve Kit, “PRESERVEKit Development,” accessed April 10, 2020, <https://preservekit.com>.

⁸⁷ MeToo Kit, “Home,” accessed April 10, 2020, <https://www.metookit.com>.

⁸⁸ Brendan Ponton, “Virginia Attorney General Warns About At-Home Rape Kits,” *WTKR.com*, September 10, 2019, <https://wtkr.com/2019/09/10/virginia-attorney-general-warns-about-at-home-rape-test-kits/>.

⁸⁹ Development of the kit began in February of 2019. The MeToo Kit website was archived by the Internet Archive’s Wayback Machine on April 21st, 2019.

⁹⁰ MeToo Kit, “About Us,” April 21, 2019, <https://web.archive.org/web/20190524211553/http://metookit.com:80/>.

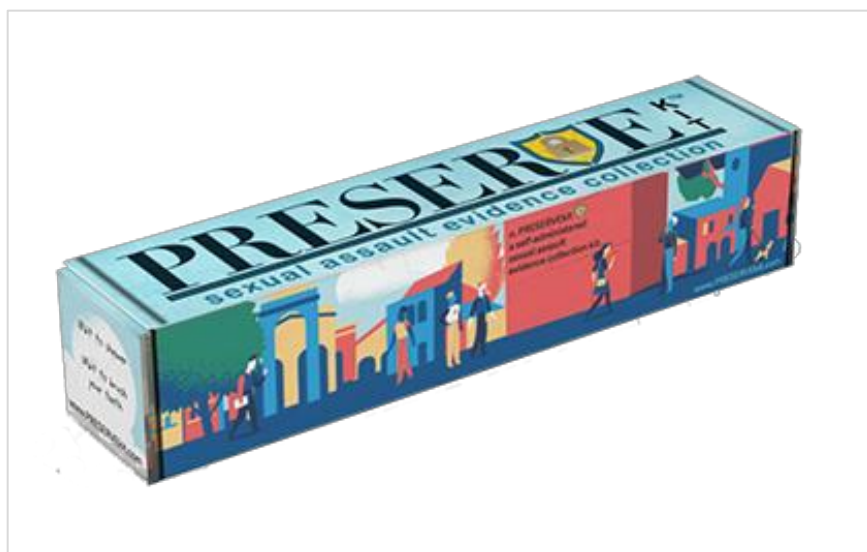


FIGURE 4.1. The PRESERVEkit. *Source.* Preserve Kit, “Home.”



FIGURE 4.2 The MeToo Kit. *Source.* MeToo Kit, “Home.”

The at-home kits first stoked a national controversy after Michigan Attorney General Dana Nessel discovered the MeToo Kit website and filed a “cease and desist” letter to the

company on August 29th, 2019 calling into question the product's legal validity —ironically, the same day that PRESERVEkit launched on Amazon:

Your marketing campaign assumes and misleads victims into thinking that they are collecting all the evidence that could be collected from the assault. Medical forensic examinations involve the taking of photographs, documentation of injuries, and an anatomically thorough investigation by a qualified professional in an appropriate setting. While your website suggests the at-home kit results will be admissible in Court, we are skeptical about that proposition.⁹¹

Over the next few weeks, both the MeToo Kit and the PRESERVEkit companies quickly came under fire as medical authorities and other state's attorneys followed Nessel's lead to condemn the very proposition of an at-home kit, claiming the products deny survivors the so-called therapeutic aspects of the SAK administered in hospitals and speculating about how courts would handle at-home rape kit evidence.

While concerns about ensuring survivors' access to therapeutic care are salient, the boundary-policing criticisms of the at-home rape kit were largely grounded in claims of expertise and "standards" that uphold the authority of power afforded to medico-legal practitioners by the hospital-based SAK. The backlash was swift and harsh. In a public statement, Kaiser Health characterized the kits as "dubious products,"⁹² and in a press conference, Oklahoma's Attorney General Mike Hunter branded them as "fraudulent," having "no value whatsoever."⁹³ The attorneys general in Michigan and Virginia levied similar attacks, arguing that "the job of collecting evidence of sexual assault, including DNA samples, is best left to experts."⁹⁴ A few

⁹¹ State of Michigan Department of Attorney General. (2019, August 29). *Letter to MeToo Kits Company*.

⁹² Victoria Knight, "A Dubious Product: A Rape Kit for Home Use," *Kaiser Health Network*, September 13, 2019, <https://khn.org/news/a-dubious-product-a-rape-kit-for-home-use/>.

⁹³ Bonnie Campo, "AG Mike Hunter Orders 2 At-Home Rape Kit Companies to Cease and Desist," *News9.com*, September 13, 2019, <https://www.news9.com/story/41042467/ag-mike-hunter-orders-2-athome-rape-kit-companies-to-cease-and-desist>.

⁹⁴ Karen Matthews, "Attorneys General Warn about 'At-Home Rape Kit Companies,'" *Yahoo*, September 12, 2019, https://www.yahoo.com/news/oklahoma-ag-warns-public-home-201551829.html?guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LmNvbS8&guce_referrer_sig=AQAAANJryW4-7bHMCJiQYUipivAiW4vWC8FtbUcN8KHku8LBwuv6_8B5DxqsPheZkkyjG7xTThOCNgic1U30lnoy8RiC8nZO

weeks later, sixteen congresswomen in the House of Representatives issued a personal letter to Madison Campbell, demanding she account for numerous questions they had about the at-home SAK and arguing the salience of medical authority in collecting evidence:

The examination process itself is complex and requires a medical professional trained in forensic evidence collection and trauma-informed inquiry to gather a patient's medical history and [it is] designed to ensure that potential DNA and evidence collected through the exam can be connected to the perpetrator (@MAPCampbell, September 26, 2019).

Campbell “tweeted” out a link in response to the Congressional inquiry, retorting, “I’m honored that several members of Congress took time out of their busy day to write @metookits a letter even though we haven’t sold anything, haven’t launched, and are simply exploring how to provide an option for the 77% of survivors who don’t make it to a hospital.”

Notably, officials’ public warnings about the at-home kits’ shortcomings in offering survivors therapeutic care, fail to acknowledge any of the systemic problems exposed by citizen-activists working to challenge the state’s irresponsibilization or any of the problems survivors face in accessing a hospital-based SAK. While some accused Nessel of attempting to personally profit off of survivors, critics ignored the many state actors who defied the 2013 amendment to the Violence Against Women Act (VAWA) that requires states to provide free sexual assault forensic exams to survivors and mandates that survivors cannot be charged for their tests.⁹⁵ In 2014, The Times-Picayune found that Louisiana hospitals were knowingly charging victims thousands of dollars for their rape kits,⁹⁶ and in 2017, the CBS affiliate THV-11 found that three Little Rock, Arkansas, hospitals were billing patients’ insurance for rape kits, in defiance of state

mXT4BRubC2cD3canzO6md5OFwPHLpp-
leas7Axx8Xlq4gWcE5HthI_RlEnpw3Aqtlc1RR2tb7Wv0kUaT&_guc_consent_skip=1586474405.

⁹⁵ It is unclear why PRESERVEkit, the product that was actually available for sale, managed to escape condemnations about selling kits.

⁹⁶ Rebecca Catalanello, “Billing for Rape: Louisiana Sex Assault Victims Often Face Hefty Bills For Medical Care,” *The Times-Picayune*, September 25, 2014, https://www.nola.com/entertainment_life/health_fitness/article_e26eabe4-20ff-5263-bbeb-3ff69cb2664b.html.

law.⁹⁷ In many other instances, victims were billed due to untrained hospital staff who filed paperwork incorrectly or simply used the wrong billing codes. A 2017 study published in the *American Journal of Public Health* found that in 2013 alone, insurance providers paid more than \$9 million for medical services related to rape, with an average cost of \$6,737 per case—\$948 of which was paid directly by the survivor.⁹⁸

Despite the backlash, the inventors of the at-home kit continued to insist that survivors can be legitimate medico-legal actors and that the products offer a worthwhile intervention in the production of forensic evidence. In an interview with *Vox*, Campbell defended the proposition of an at-home kit, describing after the experience of her own assault: “I did not even want to touch myself—let alone let anyone touch my body or console me. . . . We believe that it should be a survivor’s right to capture this evidence within the comfort of their own home.”⁹⁹ Although the PRESERVEkit managed to escape much of the public criticism, in the wake of the media frenzy, Jane Mason nonetheless pulled the product off the market. However, she similarly maintains there is value giving survivors the option of an at-home SAK, telling reporters, “I think the backlash against these products is really just a shame”¹⁰⁰ and that “crime victims give evidence to law enforcement that is admissible in court every day. . . . and a blanket statement that a victim collecting evidence of sexual assault with an at-home kit does not apply.”¹⁰¹

⁹⁷ Winnie Wright, “In Some Cases, Rape Victims Were Held Financially Responsible for Medical Expenses,” *THV11.com*, November 14, 2017, <https://www.thv11.com/article/news/local/in-some-cases-rape-victims-were-held-financially-responsible-for-medical-expenses/491906181>.

⁹⁸ See Ashley M. Tennessee, Tamala S. Bradham, Brandi M. White, and Kit N. Simpson, “The Monetary Cost of Sexual Assault to Privately Insured U.S. Women in 2013,” *American Journal of Public Health* 107, no. 6 (2017): 983-988.

⁹⁹ Anna North, “This Company is Advertising MeToo-Branded At-Home Rape Kits. Experts Say it’s a Terrible Idea,” *Vox*, September 6, 2019, <https://www.vox.com/identities/2019/9/5/20850965/me-too-kit-metoo-rape-sexual-assault>.

¹⁰⁰ Matthews, “Attorneys General Warn about ‘At-Home Rape Kit Companies,’”

¹⁰¹ Knight, “A Dubious Product.”

As a potential new intervention in the legal system, the at-home kits certainly raise a number of important, unanswered questions about how to ensure that survivors properly collect evidence from their bodies. In addition, the at-home kits raise questions about how to approach issues around “chain of custody,” such as how to document and preserve the integrity of evidence collected, and how to promote survivors’ access to health care after using the at-home kit. Rather than meaningfully engage with these questions, however, prosecutors and other state actors responded by disparaging the idea of a participatory or survivor-controlled citizen “forensic science,” using press conferences and press releases to express concerns about how the at-home kit threatens existing “standards”—e.g., juridical practices, technical issues, and expert judgments. Here, critics used concerns over “standards” as a mechanism to reinforce existing power relations and make determinations about who can and cannot participate in the production of evidence, and who can and cannot participate in the governance of forensic evidence.

Conclusion: Testing Kits is an Act of Resistance, But Forensic Science Will Not Save Us

The SAK is a technology that coproduces legal “facts” about sexual violence, survivors, and perpetrators through the forensic gaze. While responsibilized survivors are obliged to take control of their lives and legal futures by submitting to forensic examinations, the irresponsibilized state neglects its part, to process the kits—rendering the kit a part of undone forensic science. In practice, irresponsibilization contributes to the ways in which forensic evidence production co-produces gender and racial inequality.

This chapter demonstrates the multiple ways citizen-activists and official state actors negotiate the power relations of the sexual assault kit. The citizen-activists who “become

responsible” for ordering the state’s chaotic governance practice struggle over the development and implementation of alternative evidence production agendas. These responsibilized activists—as a mobilized public—attempt to remediate the state’s sequestration and destruction of forensic evidence by challenging the cost barriers to testing kits, preserving the right to retain a kit at least through the statute of limitations, and improving tracking with electronic and RFID technology.

In particular, their resistive mobilizations can contest the state’s use of forensic evidence as a contemporary, racialized citizenship project. As Kim Trent of the African American 490 Challenge contends, testing rape kits provides a way to change the narrative that sexual assault victims—especially Black victims—do not matter. Yet mismanaging SAKs is just a small part of the larger criminal justice apparatus that denies survivors control in the process. In short, testing is not productive in the pursuit of formal justice if law enforcement does not follow up on investigations and if prosecutors do not pursue cases. Yet, as seen in Shawanna Hall’s case, and countless others, testing alone—without attention to the racialized practices of forensic storytelling—will not sufficiently support marginalized women.

However, the efforts of responsibilized activists exposes something further: that there are limits to the extent that the state will negotiate on the form and function of institutionalized infrastructures. Just as there are meaning-making narrative frames within the anti-sexual violence movement, there are “technological frames” for anti-sexual violence technologies that reflect agreement in the form and function of a particular object.¹⁰² The attempts of some citizen-activists to develop an at-home SAK draws attention to how the period of what Trevor Pinch and Wiebe Bijker call “interpretive flexibility” in technological frames regarding the relationships

¹⁰² For more on “technological frames,” see Pinch and Bijker, “The Social Construction of Facts and Artefacts.”

between survivors, medico-legal actors and the kit has closed. The state's understanding of these relationships, in which the SAK is as a forensic technology that belongs to the state is stable.¹⁰³ Thus, while citizen-activists are able to re-responsibilize the state in maintaining this technology through policy-based activism, they cannot fundamentally disrupt the relations of power the state has over the SAK—at least not without recruiting more state-based allies to question who a legitimate producer of forensic evidence is.

This raises important questions about how the socio-political and economic apparatus in which anti-violence technologies are created shape the perceived viability and adoption of those resistive mobilizations. In the next chapter, I further examine the politics of meaning in designing a state sanctioned anti-violence technology: the electronic monitor. Here, I focus on how state actors comprise an “official public” that circulate gendered and racialized narratives of the sex offender figure, as well as how the paradigm shift in the meanings attached to the monitor transformed the technology from a perceived mode of persuasive behavioral rehabilitation to a punitive object that is deployed to punish racialized sexual subjectivities.

¹⁰³ Ibid.

Electronic Monitors and the Politics of Meaning: Punishing Racialized Sexual Subjectivities

The Peculiar Punishment of Sex Offenders

The term *sex offender* refers specifically to those perpetrators convicted of rape or sexual assault.¹ Perhaps along with terrorists, sex offenders receive a greater and unprecedented degree of punishment and restriction than any other group.² Despite the decades-long work of anti-violence activists to demonstrate that sexual predation most often occurs at the hands of presumed loved ones, the public framing of the sex offender as an abnormal and unchangeably “monstrous animal in need of permanent restriction” persists in the social milieu.³ This framing is fed through media and legal constructions, in which the sex offender—typically constructed as the always male pedophile—is viewed as “an outsider,” an irredeemable and evil monster with criminal sexuality.⁴ Sociologists Malcolm Cowburn and Lena Dominelli describe how this

¹ Sexual assault includes convictions for statutory rape, forcible sodomy, lewd acts with children, and other offenses such as fondling, molestation, or indecent practices.

² See Justin T. Pickett, Christina Mancini, and Daniel P. Mears, “Vulnerable Victims, Monstrous Offenders, and Unmanageable Risk: Explaining Public Opinion on the Social Control of Sex Crime,” *Criminology* 51, no. 3 (2013): 729-759; Dale Spencer, “Sex Offender as Homo Sacer,” *Punishment & Society* 11, no. 2 (2009): 219-240.

³ Jonathan Simon, “Managing the Monstrous: Sex Offenders and the New Penology,” *Psychology, Public Policy, and Law* 4, no. 1-2 (1998): 452; John Douard, “Sex Offender as Scapegoat: The Monstrous Other Within,” *New York Law School Law Review* 53 (2008): 31.

⁴ Leonore M.J. Simon, “Sex Offender Legislation and the Antitherapeutic Effects on Victims,” *Arizona Law Review* 41 (1999): 485; Richard G. Zevitz, “Sex Offender Placement and Neighborhood Social Integration: The

“othering” triggers fear, hatred, and the desire to socially distance those men labeled as sex offenders, based on their presumed rigid sexual animality.⁵ Most recently, this imagery is captured in HBO’s 2020 adaptation of Stephen King’s “The Outsider,” in which the “boogeyman” is a shapeshifting rape-murderer who traverses the country enacting horrific sexual crimes, with devastating consequences for his child victims and their families and communities. In the story, police investigators must make sense of conflicting video and forensic evidence in order to identify and track down the future whereabouts of the ominous “outsider.”

The indefensible sex offender figure has long served as an expedient subject which policymakers and law enforcement use to perform a “tough-on-crime” position, declaring the need to control and predict the whereabouts of sexual predators. Criminologist Jonathan Simon characterizes this strategy as *governing through crime*—an approach to producing social order that is organized around the problem of crime. Simon argues that governing through crime has three corollaries.⁶ The first is that crime is a strategic issue for governments and institutions; second, that politicized and racialized constructions of crime victims and perpetrators are deployed as a means to legitimate interventions that are driven by motivations other than crime control. Third, the ways in which we think about and respond to crime form the basis of contemporary political and institutional activity. Governing through crime often involves a focus on addressing punishment rather than the root causes of crime, and allows governments to frame complex social problems in a way that makes them appear to have simple solutions. The loathed

Making of a Scarlet Letter Community,” *Criminal Justice Studies* 17, no. 2 (2004): 203-222; and Renee M. Shelby and Anthony R. Hatch, “Obscuring Sexual Crime: Examining Media Representations of Sexual Violence in Megan’s Law,” *Criminal Justice Studies* 27, no. 4 (2014): 402-418.

⁵ Malcolm Cowburn and Lena Dominelli, “Masking Hegemonic Masculinity: Reconstructing the Pedophile as the Dangerous Stranger,” *British Journal of Social Work* 31, no. 3 (2001): 408.

⁶ Jonathan Simon, *Governing Through Crime: How the War on Crime Transformed American Democracy and Created a Culture of Fear* (Oxford: Oxford University Press, 2007).

sex offender figure offers a particularly easy political target through which to govern through crime.

In the 1990s, during the height of the racialized “tough-on-crime” agenda that led to mass incarceration, federal legislators passed what is known as the Sexually Violent Predator laws. These highly restrictive laws increased the power of local governments to control sex offenders through seemingly simple regulatory and technological solutions. Such laws include: The Jacob Wetterling Crimes Against Children Registration Act of 1994 that mandates each state to create a registry of sex offenders and requires offenders to annually confirm their address for ten years following their release from prison; Megan’s Law of 1996, which requires that information on sex offender registries be made public, thus fulfilling the community’s so-called “right to know” the residence of a convicted offender; and the Adam Walsh Child Protection and Safety Act of 2006 that directs state officials to evaluate an offender’s likelihood of recidivism as either low, moderate, or high, and funds local governments to enhance electronic monitoring systems used to track their daily movements.

At the local level, many states have adopted additional statutes to control the sex offender through increased restriction and surveillance. Such laws typically include lengthy mandatory minimum sentences without parole for offenders with child victims; lifetime registration for convicted offenders; curfews; and the adoption of highly restrictive residency and geographic exclusion zones. These zones comprise common public areas—such as schools, libraries, parks, churches, and school bus stops—as well as perimeter buffers, in which offenders are not able to enter within 500 to 2,500 feet of the restricted area. Forty-two states have also adopted “Jessica’s Law”—the informal name given to state laws that require those convicted of child sex crimes to wear non-removable electronic monitors so that law enforcement may track their whereabouts at

any time. This law is intended to address a perceived gap in Megan's Law, which presumes that a sex offender lives, and is always at, his registered address.

To pass what might otherwise be considered a suspect level of geographic restriction and surveillance, legislators deploy aesthetic devices and knowledge claims about how the criminal sexuality of sex offenders poses an extreme threat to the community. Take, for example, Georgia's House Bill 1059, which passed in 2006 and calls for sex offenders to wear electronic monitors for life. The law also prohibits convicted sex offenders from entering within 1,000 feet of "anywhere minors congregate," including public and private parks, recreation facilities, playgrounds, skating rinks, neighborhood centers, gymnasiums, school bus stops, and public and community swimming pools. As justification, the Georgia General Assembly declared, without supporting evidence, that geographic restrictions are effective because "many sexual offenders are extremely likely to use physical violence and to repeat their offenses. . . and have many more victims than are ever reported, and are prosecuted for only a fraction of their crimes."⁷

The result of federal and local regulations is a complex, techno-legal surveillant assemblage that exists to materially and discursively regulate the sexualities of the estimated more than 860,000 registered sex offenders in the U.S.⁸ The electronic monitor is the core anti-sexual violence technology at the center of this assemblage and is deployed to render sex offenders accountable to geospatial and curfew restrictions, thus controlling their participation in public life. Currently, all fifty states authorize or require convicted sex offenders to submit to electronic monitoring upon their release, and at least thirty states provide for the lifetime electronic monitoring of offenders.

⁷ Georgia House Bill 1059 (2006).

⁸ National Center for Missing and Exploited Children, "Map of Registered Sex Offenders in the United States," 2017, https://api.missingkids.org/en_US/documents/Sex_Offenders_Map.pdf.

In this chapter, I examine the gendered and racialized politics of meaning that have shaped the different uses of the electronic monitor. Specifically, I trace the historic paradigm shift in how proponents imagine that the electronic monitor co-produces social accountability. Here, I focus on how these visions shifted from an early emphasis on the rehabilitation of primarily white, male low-level crime offenders to a punitive technology of control that disproportionately affects racial and sexual minorities on sex offender registries. Understanding this shift means recognizing that the stabilization of electronic monitoring systems is not simply connected to the sex offender figure, but is also stabilized through the racial formation of mass incarceration, particularly the over-incarceration of black and brown bodies that has characterized the U.S. criminal justice system since the punitive turn.

As will be more fully elaborated below, the electronic monitoring of sexual offenders accelerated between 2005-2015, as a result of the racialized Sexually Violent Predator laws as well as enhancements in GPS technology. While overcrowding in jails and prisons contributed to understandings of the monitor as a cost-efficient means to enforce home confinement for other types of offenders, the perceived urgent need to control how sex offenders participate in social life contributed to understandings of the monitor as an anti-sexual violence technology. Finally, I discuss how electronic monitoring is deployed to control not only the sexual subjectivities of offenders, but of sexual abuse survivors as well—particularly those who traverse what youth advocates call the “sexual abuse to prison pipeline.”⁹ The data for this chapter are drawn from scientific documents and government records on electronic monitoring devices, declassified local

⁹ See, for example, Sandra B. Simpkins, Amy E. Hirsh, Erin McNamara Horvat, and Marjorie B. Moss. “The School to Prison Pipeline for Girls: The Role of Physical and Sexual Abuse,” *Children’s Legal Rights Journal* 24 (2004): 56; and Malika Saada Saar, Rebecca Epstein, Lindsay Rosenthal, and Yasmin Vafa, “The Sexual Abuse to Prison Pipeline: The Girls’ Story” (Washington, DC: Georgetown University Law Center, Center for Poverty and Inequality 2015).

and state police documents published between 1960 and 2019, and investigative news and media coverage about electronic monitors, sex offenders, and poor girls and girls of color involved in the juvenile justice system.

The Advent of the Electronic Monitor and the Short-Lived Thought Collective of Behavioral Change

To understand contemporary electronic monitoring practices, it is first necessary to trace the shift in both the symbolic meaning of the electronic monitor and in penological theories of incarceration and the possibility for rehabilitation. Psychologist Robert S. Schwitzgebel and his late twin brother Ralph invented the first electronic monitoring system for criminal offenders in the 1960s while in graduate school at Harvard University.¹⁰ In an interview with the *New York Times*, Ralph Schwitzgebel describes how he created the idea while watching *West Side Story* (1961), in which a parole officer is searching for a young man who is ultimately killed by an opposing gang member.¹¹ He hypothesized if the slain hero had received a warning or assistance, his life would have been spared,¹² and believed if the officer had known the parolee's whereabouts that "he might have prevented the rumble."¹³

There is no evidence to suggest the Schwitzgebel brothers' ideas were explicitly focused on sexual crimes or criminalized sexuality. However, Ralph Schwitzgebel did use his behavioral technology to "help" a twenty-three-year-old man reform his "homosexual tendencies."¹⁴

¹⁰ Riley Vetterkind, "Electronic Monitoring Pioneer Wants Less Punishment, More Reward," *Wisconsin Watch.org*, March 4, 2018, <https://www.wisconsinwatch.org/2018/03/electronic-monitoring-pioneer-wants-less-punishment-more-reward/>.

¹¹ John Fenton, "Psychologist Tests Electronic Monitoring," *New York Times*, September 7, 1969, 85.

¹² William Burrell and Ralph (Schwitzgebel) Gable, "From BF Skinner to Spiderman to Martha Stewart: The Past, Present, and Future of Electronic Monitoring of Offenders," *Journal of Offender Management*, 46, no. 3-4 (2008): 101-118.

¹³ Fenton, "Psychologist Tests Electronic Monitoring."

¹⁴ Ralph Schwitzgebel, *Street-Corner Research* (Cambridge: Harvard University Press, 1964), 127-128.

Schwitzgebel had the young man record his sexual impulses activity for a period of thirteen months, and then introduced an experimental intervention “consisting of taking ipecac three times when homosexual impulses were particularly frequent and likely to lead to homosexual behavior.” Schwitzgebel reflected that through the use of behavioral technologies, the young man is “now married and in his own words ‘very content.’”¹⁵ He also authored a 1971 report for the National Institute of Mental Health in which he suggests that the behavior of criminally “sexually deviant persons,” including those who experience “homosexuality,” sexual “fetishism,” and “transvestism” can be changed through technological behavioral modification techniques including electric shock therapy and electronic monitoring.¹⁶ He concludes with a lengthy analysis of the weaknesses of state sex offender statutes that can lead to “long-term detention. . . carried out under guise of treatment.”¹⁷ These particular examples point to the broader cultural work that was happening with criminalized sexuality and racialized beliefs about “rehabilitation” at the time.

The Sex Offender, Criminal Sexuality, and White Heteronormativity

The cultural image of the compulsive “sex fiend” first emerged in the Progressive era (1880-1935) and expanded after World War II during the Sexual Psychopath era (1930-1955). Driven by collective momentum to construct gendered and racialized national embodiments of sexual dangerousness, the “sex fiend” and “sexual psychopath” discourse—often used interchangeably—became a means for legal actors to control and protect certain (white) boys

¹⁵ Schwitzgebel had the young man record his sexual impulses activity for a period over a period of thirteen months, and then introduced an experimental intervention “consisting of taking ipecac three times when homosexual impulses were particularly frequent and likely to lead to homosexual behavior.”

¹⁶ Ralph Schwitzgebel, *Development and Legal Regulation of Coercive Behavior Modification Techniques with Offenders* (Washington, DC: National Institute of Mental Health, 1971), 10-11.

¹⁷ Ibid, 36.

who were perceived as being “tricked” into sex work while naturalizing racial, ethnic, and gendered difference. American Studies scholar Nayan Shah summarizes:

. . .prosecutors and judges in the early twentieth century created racialized and sexualized typologies of masculinity to police the relationships of roaming male youth and foreign migrants. Their immediate purpose was to identify the [sexual] dangers posed to male youth, but the effect was to ensure a future for American normative masculinity. . . . The protection of a specific [American] male victim, however, was secondary to the protection of society and civilization and the affirmation of American normative masculinity.¹⁸

As part of broader efforts to police same-sex sex work, the “sex fiend” served legal actors’ motivations to explain away certain forms of white male delinquency, while shoring up constructions of criminal sexuality in the legal system. The overall effect was to discipline whiteness and heterosexuality into an embodiment of “normal” sexual citizenship while promoting the segregation of outsider sexualities, a factor that resulted in the greater criminalization of racialized subjects. Historian Jessamyn Neuhaus describes how the gendered and racialized discourses of foreign relations in the Cold War shaped perceptions of “normal” sexuality, in which the idea that “powerful erections in the marriage bed comprised a strong front against the peril of perversion facing the United States.”¹⁹

The construction of a white male heterosexual national identity strengthened cultural beliefs that white masculinity was synonymous with nationhood,²⁰ and naturalized ideas about gender difference, and about what constituted racial and sexual deviance. Within this construct, women and racial and sexual minorities were cast outside narratives of the imagined national community. As being a “good citizen” meant one’s compliance with white male

¹⁸ Nayan Shah, “Between ‘Oriental Depravity’ and ‘Natural Degenerates’: Spatial Borderlands and The Making of Ordinary Americans,” *American Quarterly* 57, no. 3 (2005): 703-725.

¹⁹ Jessamyn Neuhaus, “The Importance of Being Orgasmic: Sexuality, Gender, and Marital Sex Manuals in The United States, 1920-1963,” *Journal of the History of Sexuality* 9, no. 4 (2000): 470.

²⁰ Siobhan B. Somerville, *Queering the Color Line: Race and the Invention of Homosexuality in American Culture* (Durham, NC: Duke University Press, 2000).

heteronormativity, certain white men were viewed as having “reform-able” sexuality and became targets for medical, behavioral, and technological interventions, such as with the electronic monitor.

Throughout the Sexual Psychopath era, the dominant practice was to treat white sex offenders in psychiatric hospitals.²¹ However, beginning in the mid-1960s-1970s, the deinstitutionalization movement saw the widespread closure of psychiatric hospitals and a shift towards treating sex offenders and other criminal offenders in the community. Amidst the renewed cultural focus on community rehabilitation, the Schwitzgebels focused their application of the electronic monitor towards reasserting the presumed normality of whiteness by changing the behaviors of “sexual deviants” as well as white offenders who had committed a wide variety of low-level crimes. Ralph, in particular, was influenced by the theories of Harvard behaviorist B.F. Skinner and his academic advisor, Timothy Leary—who embraced an exceptionally experimental approach to behavioral change.²² Drawing from this influence, Ralph Schwitzgebel viewed the electronic monitor as a persuasive mechanism of co-producing offender accountability and rehabilitation in the community through technically-mediated positive

²¹ The widespread imprisonment of sex offenders did not occur until much later with the punitive turn.

See National Institute of Corrections, *A Practitioner's Guide to Treating the Incarcerated Sex Offender: Breaking the Cycle of Sexual Abuse* (Washington, DC: U.S. Department of Justice, 1988).

²² Ralph Schwitzgebel then pitched the idea to his academic advisor, Timothy Leary the acclaimed applied psychologist who developed a new paradigm for behavioral change that broke with the then-dominant “subject-object model” which prioritized unidirectional manipulation and control. In contrast, Leary’s postmodernist model suggested that cultural behavior was socially constructed—a kind of “game” that could be reconfigured. Schwitzgebel and Leary had previously worked together on the issue of recidivism through the controversial Concord Prison Experiments, in which Leary and his researchers administered psilocybin to 32 juvenile inmates in an effort to reduce recidivism.

²² In an article about the experiment that they co-authored in *Psychotherapy*, Leary and his colleagues articulate their perspective on rehabilitation, in which they sought not to change behavior not by curing illness, but by overcoming what they termed “self-defeating behaviors.” See Timothy Leary, Ralph Metzner, Madison Presnell, Gunther Martin Weil, Ralph K. Schwitzgebel, and Sara Kinne Winter, “A New Behavior Change Program Using Psilocybin,” *Psychotherapy* 2, no. 2 (1965) 61-72.

reinforcement.²³

Developing the “Behavior Transmitter-Reinforcer,” Street-Corner Research, and Modern Penology

The Schwitzgebel brothers built the first prototype of the monitor with electrical engineer William S. Hurd, and they named it the “Behavior Transmitter-Reinforcer”—a bulky technology capable of sending two-way messages between a base station and remote device through radio frequencies. To test the prototype, Ralph Schwitzgebel created an office in an abandoned storefront near Harvard Square, where sixteen “at-risk youth, parolees, psychiatric patients, and student research volunteers” participated in behavioral-change research projects using the monitor.²⁴ He called the project “Street-Corner Research,” later publishing a book about the experiments under the same name. The name draws attention to the existing limitations in radio-frequencies, as the participants were confined to a radius of five-blocks from the home office.²⁵ Using a system of positive reinforcement, Ralph Schwitzgebel provided the participants with modest rewards such as pizza parties, movie tickets, and free haircuts for routinely checking-in with the base station and coming to scheduled appointments.²⁶ Schwitzgebel reflected on how the primarily adolescent, male, and (notably) white test subjects were amenable to the technology, explaining that the boys “sometimes fantasize that they are ‘tuned-in, turned-on, and wired-up’ like astronauts.”²⁷

²³ Schwitzgebel, *Development and Legal Regulation of Coercive Behavior Modification Techniques with Offenders*.

²⁴ Schwitzgebel, *Street-Corner Research*.

²⁵ Fenton “Psychologist Tests Electronic Monitoring.”

²⁶ Kashann Kilson, “How the Best Intentions and Spider-Man Helped Launch Ankle Monitors,” *Inverse*, November 20, 2016, <https://www.inverse.com/article/8374-how-the-best-intentions-and-spider-man-helped-launch-ankle-monitors>.

²⁷ Robert Schwitzgebel, April 1969, “A Belt from Big Brother,” *Psychology Today*, 64.

Despite these reported highlights, the initial success of “Street-Corner Research” is debatable. Within two weeks, all but two of the initial sixteen volunteers dropped out. Many participants—unsurprisingly—complained of being confined to the five-block radius, while others reportedly “wanted to go back to their gangs.”²⁸ However, four participants ultimately returned, and Schwitzgebel recruited thirty participants overall.²⁹ One man, who had reportedly been arrested over 100 times, voluntarily stayed on the electronic monitor for forty days, and another man characterized as a “mental patient,” stayed for 167 days. Both men indicated that they enjoyed the social support and having someone to regularly talk with. However, in a third interview with the *New York Times*, Schwitzgebel conceded “there were no miracles” in the boys’ behavior; although, compared to a control group of delinquent boys with no intervention, the boys under electronic supervision committed fewer and less severe crimes.³⁰

Hopeful of the imagined possibilities of technologically-mediated behavioral change Ralph Schwitzgebel and Hurd submitted a patent for the Behavior Transmitter-Reinforcer.³¹ When the patent was granted in 1969, the *New York Times* celebrated the monitor, noting that it “permits the behavior of prisoners and mental patients to be supervised unobtrusively. . . without posing much restraint on freedom of movement and action.”³² In the patent, Schwitzgebel and Hurd explain that within modern penology, “a principal objective is the rehabilitation of

²⁸ Fenton, “Psychologist Tests Electronic Monitoring.”

²⁹ After completing his Ph.D., Ralph Schwitzgebel continued the project for an additional five years while in law school through his organization SCOPE (the Science Committee on Psychological Experimentation).

²⁹ Ralph Schwitzgebel founded SCOPE in 1959. Through SCOPE, he recruited and paid so-called “young delinquents” two dollars per hour to wear the electronic monitor and to document their feelings and impulses. The supervisors at SCOPE who electronically monitored the participants would then attempt to identify behavioral patterns and times of “trouble,” such as during the night and weekends. They would then intervene by introducing competing behaviors and activities during these times, such as scheduling the youth to go to work during those “trouble” hours.

³⁰ Douglas Robinson, “Delinquents are Paid by the Hour in Boston to Submit to Study,” *New York Times*, December 14, 1964, 54.

³¹ US patent #3478344A.

³² Stacy Jones, “Tiny Radio Monitors Prisoner Behavior,” *New York Times*, November 14, 1969, 53, 55.

convicted offenders. However, the penological tools and techniques presently commonly used involve either a high degree of situational constraint (prison) or limited supervision involving periodic contact with the individual (parole).” In contrast, they argue, their Behavior Transmitter-Reinforcer enables continuous supervision without imposing constraint on offenders’ freedom of movement and action. A year later, Robert Schwitzgebel and Richard Bird patented a belt-encased monitor, which they argued would improve the feasibility of researchers and practitioners to “intervene in an individual’s typical behavior patterns” through two-way communication,³³ and in his 1971 report to the National Institute of Mental Health, Ralph Schwitzgebel suggests that “the linkage of these transducers. . . within an electronic locator system, [could] provide the capability of precisely monitoring sex offenders within the community.”³⁴

Despite the Schwitzgebel brothers’ efforts to frame the electronic monitor as an agency-increasing means of criminal behavior rehabilitation, the technology was quite controversial. In part, the public’s negative response is attributable to the technology being radically ahead of its time. The Behavior Transmitter-Reinforcer was developed before what Robert Schwitzgebel calls the “golden age of computing,” in a time when “transistor radios and color televisions were still novel.”³⁵ For many criminal justice practitioners, the idea of electronic monitoring seemed frightening. For example, in 1966, when Ralph sent a manuscript for review at *Federal Probation*, the editor sent the following chilly response:

I get the impression from your article that we are going to make automatons out of our parolees and that the parole officer of the future will be an expert in telemetry, sitting at his large computer, receiving calls day and night, and telling his parolees what to do in all

³³ Robert L. Schwitzgebel and Richard M. Bird, “Sociotechnical Design Factors in Remote Instrumentation with Humans in Natural Environments,” *Behavior Research Methods & Instrumentation* 2, no. 3 (1970): 99-105.

³⁴ Schwitzgebel, *Development and Legal Regulation of Coercive Behavior Modification Techniques with Offenders*, 19.

³⁵ Burrell and Schwitzgebel, “From BF Skinner to Spiderman to Martha Stewart.”

situations and circumstances. . . . Perhaps we should also be thinking about using electronic devices to rear our children. Since they do not have built-in consciences to tell them right from wrong, all they would have to do is push the “mother” button and she would take over the responsibility for decision-making.³⁶

Similarly, when Ralph wrote an article for a topical issue of *Psychology Today* on “man and machines,” without his knowledge, the magazine editors renamed the article with the ominous title, “A Belt from Big Brother.”³⁷

Dismissal of the electronic monitor was so widespread that even efforts to examine potential abuses of the electronic monitor were rejected,³⁸ and Schwitzgebel was “rebuffed by virtually every professional organization, foundation, and citizen group to which he turned.”³⁹ In reflecting back on this early resistance, William Burrell and Robert Schwitzgebel lament that the “original electronic monitor was probably just a little too ‘sci fi’ for its own good.”⁴⁰ However, another cross-current contributing to negative views of the monitor may have been the then-smaller prison population that had not yet placed strains on the prison system.

The Prison Population in the Rehabilitative Era

While not embraced by the criminal justice system, Ralph Schwitzgebel’s effort to use technology as a means to assist rehabilitation is not entirely surprising. As introduced above, from the early years of the twentieth century through the mid-1970s, rehabilitation was the socio-

³⁶ Victor H. Evjen, Letter to R. Schwitzgebel, November 16, 1966.

³⁷ Robert Schwitzgebel (Gable), “Electronic Monitoring of Criminal Offenders,” *RGable.wordpress.com*, last accessed April 13, 2020, <https://www.rgable.wordpress.com/electronic-monitoring-of-criminal-offenders/>.

³⁸ In *Behavioral Science*, Schwitzgebel and his colleagues draw attention to how all technology is political and value-laden. They implore readers to understand how “the application of behavioral electronics to human problems presents us with social dangers as well as possibilities. The warnings contained in Huxley’s *Brave New World*, Orwell’s *1984*, or Zamyatian’s *We* are relevant here. . . It is no longer possible to regard technological advances as neutral or insignificant to human welfare.” See, Ralph Schwitzgebel, Robert Schwitzgebel, Walter N. Pahnke, and William Sprech Hurd, “A Program of Research in Behavioral Electronics,” *Behavioral Science* 9, no. 3 (1964): 237

³⁹ Laurence Tribe, *Channeling Technology Through Law* (Chicago, IL: Bracton Press, 1973): 331-332.

⁴⁰ Burrell and Schwitzgebel, “From BF Skinner to Spiderman to Martha Stewart,” 103.

political ideal in American corrections. This ideal had led to the adoption of indeterminate sentencing,⁴¹ the introduction of parole and probation, and a separate juvenile justice system. The so-called “era of rehabilitation” marked a time during which prisons were considered reformation houses, and there was a commitment to the belief that prisoners could be rehabilitated.⁴² This view is famously captured in a statement by the 1967 Task Force on Corrections: the “ultimate goal of corrections under any theory is to make the community safer by reducing the incidence of crime. Rehabilitation of offenders to prevent their return to crime is in general the most promising way to achieve this end.”⁴³ As such, the policies and practices of the rehabilitative era produced comparatively low and stable prison populations. From the mid-1920s until around 1973, the U.S. incarcerated around 100-125 adults for every 100,000 in the population. By the year 2000, approximately 700 adults for every 100,000 in the population were incarcerated.⁴⁴

The U.S. has tracked its prison population since 1925. Figure 5.1 shows the U.S. inmate population from 1925 to 1985. Based on Bureau of Justice Statistics’ estimates of state and federal prisoners, in 1960 there were 212,953 sentenced inmates, and by 1970, the number of inmates even declined slightly to 196,441.⁴⁵ Approximately 95% of the entire prison population was male.⁴⁶ Throughout the 1960s and the height of the rehabilitation era, the prison population was predominantly white, with approximately two out of three prisoners identifying as white.⁴⁷

⁴¹ Indeterminate sentencing is a sentence that does not have a mandated, specific amount of time, e.g., 5-10 years. The actual duration of the sentence is determined by parole boards or other agencies.

⁴² David Garland, *The Culture of Control: Crime and Social Order in Contemporary Society* (Chicago: University of Chicago Press, 2012).

⁴³ Task Force on Corrections, President’s Commission on Law Enforcement and Administration of Justice, *Task Force Report: Corrections* (Washington, D.C.: Government Printing Office, 1967), 16.

⁴⁴ Michael Tonry, *Introduction: Penal Politics at the Beginning of the Twenty-First Century*, in *Penal Reform in Overcrowded Times*, ed., Michael Tonry (Oxford University Press, 2004), 3-16.

⁴⁵ Bureau of Justice Statistics, *National Prisoner Statistics, 1978-2015* (Ann Arbor, MI.: Inter-university Consortium for Political and Social Research).

⁴⁶ Ibid.

⁴⁷ Patrick Langan, *Race of Prisoners Admitted to State and Federal Institutions, 1926-86*. (Washington, D.C.”

However, there were still clear racial disparities. In 1960, the white male incarceration rate was 262 per 100,000 white U.S. residents, and the Black male rate was 1,313.⁴⁸ In other words, when controlled for their population, Black men were five times as likely as white men to be incarcerated. Subsequent decades would witness an explosion in the prison population and a drastic increase in the disproportionate incarceration of African Americans and Latinos. With the punitive turn, new ways of thinking about incarceration and containment that ultimately had implications for the monitoring of sex offenders.

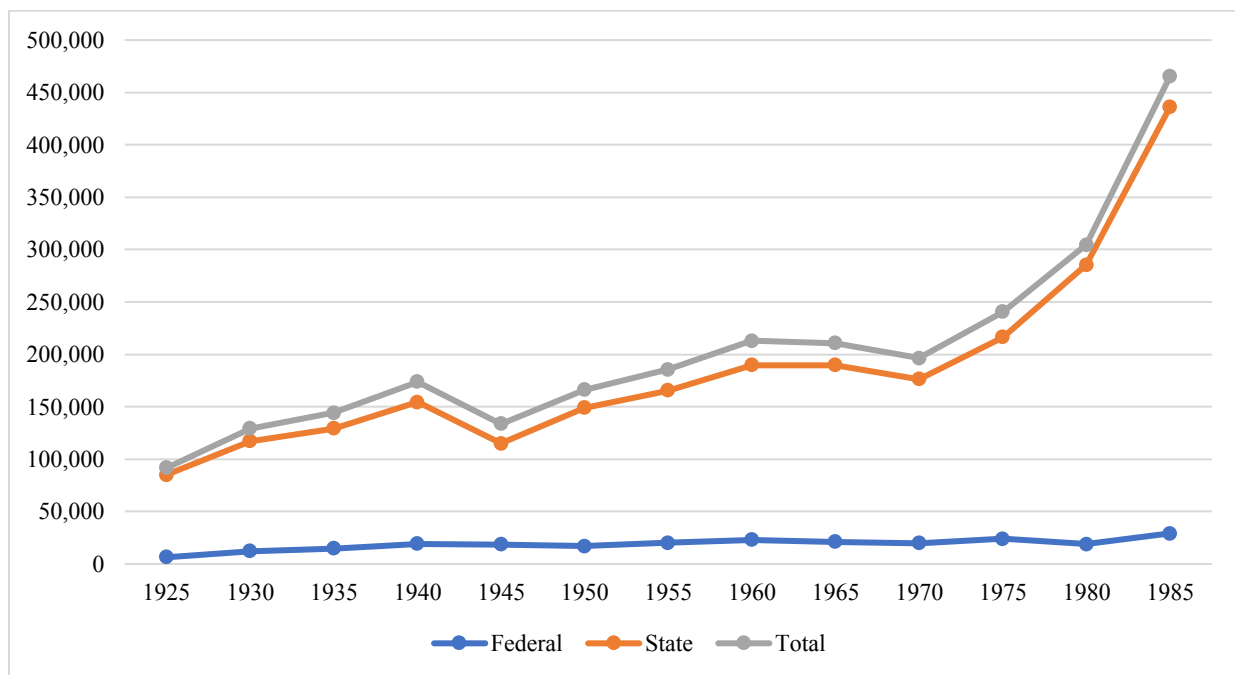


FIGURE 5.1 U.S. Prison Population, 1925-1985. *Source:* Bureau of Justice Statistics, *National Prisoner Statistics, 1978-2017*.

U.S. Department of Justice, 1991), Table 2.

⁴⁸ Bruce Drake, "Incarceration Gap Widens Between Whites and Blacks," *Pew Research*, September 6, 2013, <https://www.pewresearch.org/fact-tank/2013/09/06/incarceration-gap-between-whites-and-blacks-widens/>.

The Punitive Turn and the New Material-Discursive Demand for Electronic Monitoring

Despite the chilly initial reception, the political meanings assigned to electronic monitoring changed as new theories stabilized about how to best deal with criminal offenders. In the middle of the 1970s, the “rehabilitative model,” which embraced indeterminate sentencing, discretionary parole release, and investments in offender treatment was replaced by what Malcom Feeley and Jonathan Simon critically term the “new penology”—a strategic formation whose logics prioritized the administration of punishment and the efficient management of risky populations.⁴⁹ Jonathan Simon characterizes the new penology as a pessimistic shift in the master narrative of punishment, in which “subjects formerly defined as aberrant and in need of transformation [were] now seen as high-risk.”⁵⁰ This pessimism—manifesting in the view that little could be done to change offenders—resulted in a severe increase in punitive regulations, including new mandatory minimum sentencing for drug offenders that passed in the 1980s,⁵¹ as well as the 1990s “three-strikes-and-you’re-out” laws that mandated habitual offenders to serve lifetime sentences, and the Sexually Violent Predator Laws that allowed for sex offender registries and community notification.

Harsh regulations particularly targeted poor people and people of color, effectively criminalizing poverty. Legal scholars such as Michelle Alexander and Michael Tonry pinpoint

⁴⁹ Malcolm M. Feeley and Jonathan Simon, “The New Penology: Notes on the Emerging Strategy of Corrections and its Implications,” *Criminology* 30, no. 4 (1992): 449-474

⁵⁰ Simon, “Managing the Monstrous,” 453.

⁵¹ Ironically, the 1970 Controlled Substances Act unified state codes to create a schedule and prohibitive weight of controlled substances based on their potential for abuse, their physiological effects, and their perceived risk to the public. Ironically, although the law eliminated mandatory minimum drug sentences and provided provisions for treatment, it provided the infrastructure for the racialized 1980s “War on Drugs”—as new drugs could easily fit into its scheduling framework—and it allowed for dedicated drug law enforcement. See David T. Courtwright, “The Controlled Substances Act: How a ‘Big Tent’ Reform Became a Punitive Drug Law,” *Drug and Alcohol Dependence* 76, no. 1 (2004): 14.

drug laws as a key mechanism of how the contemporary legal system produces racial hierarchy by creating a “racial caste system” that is predicated on indifference to the relationships between race and class.⁵² Yet punitive drug policies comprise just one racist practice intertwined among other racisms. As the sexuality of Black men was always already constructed as “dangerous,” the collateral consequences of the Sexually Violent Predator laws were more greatly experienced in poor, Black communities. While precise data on sex offenders is scarce, a 2008 study found that communities with higher concentrations of sex offenders are also likely to have higher proportions of Black residents.⁵³

Figure 5.2 shows the U.S. inmate population from 1970 to 2015, and Figures 5.3 and 5.4 show incarceration rates by race and gender.⁵⁴ In just a few short years, prison rates rose dramatically. Between 1970 and 1975, the national prison population increased 22% from 196,441 to 240,593. A decade later, by 1986, the population had doubled to 503,794, with Black men accounting for approximately 46% of admitted state prisoners and 21% of federal prisoners.⁵⁵ While overall incarceration rates increased substantially, the rate of Black imprisonment rate grew much faster. Between 1926 and 1986, the rate of white imprisonment increased by 1.8 times while the rate of Black imprisonment increased by 3 times.

Between 1985 and 2000, the prison population more than doubled again, swelling to 1,381,892. By then, Black men comprised 46% of the inmates serving at least one year—while white inmates comprised only 36% and Hispanic inmates comprised 16% of the corrections

⁵² Michelle Alexander, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* (New York: The New Press, 2010); Michael Tonry, “The Effects Of American Drug Policy on Black Americans, 1980-1996,” *European Journal on Criminal Policy and Research* 4 (1996): 36-62; and Michael Tonry, *Punishing Race: A Continuing American Dilemma* (New York, NY: Oxford University Press, 2011).

⁵³ Elizabeth Ehrhardt Mustaine and Richard Tewksbury, “Registered Sex Offenders, Residence, and the Influence of Race,” *Journal of Ethnicity in Criminal Justice*, 6, no. 1 (2008): 65-82.

⁵⁴ Bureau of Justice Statistics, *National Prisoner Statistics, 1978-2015*.

⁵⁵ Langan, *Race of Prisoners Admitted to State and Federal Institutions, 1926-86*, 7.

population. The rates of female imprisonment also increased during this time. Between 1990 and 2000, the female prison population more than doubled—and showed racial disparities similar to those of men’s incarceration. The rate of imprisonment for Black women (205 per 100,000) was three times higher than that of Hispanic women (60 per 100,000) and six times higher than white women (34 per 100,000).⁵⁶

The Sexually Violent Predator laws led to a similar rise in the number of sex offenders, but not because sex crimes were on the rise. According to the Uniform Crime Report, between 1990 and 2010, the arrest rates for “forcible rape”⁵⁷ fell 59%.⁵⁸ In 1990, there were approximately 15 arrests per 100,000 adults in the population; by 2010, that number decreased to only 6 arrests per 100,000 adults. However, due in part to efforts to “govern through sexual crime” and because of the lengthy mandatory sentencing implemented with the Sexually Violent Predator laws, the number of sex offenders in state custody rose.

Figure 5.5 shows available data on sex offenders in state custody by their most serious sexual offense, as well as comparative data on arrests for rape as reported in the Uniform Crime Report. While there is a marked upward trend in the number of prisoners in state custody for sexually-based offenses between 1980 and 1990, the downward trend in arrests reveals the impact of the Sexually Violent Predator laws in creating a durable population of sex offenders in state custody. Combined with the overall growth in the prison population, it is perhaps no surprise, then, that in 2000, twenty-one states reported that their prisons were operating at or

⁵⁶ Allen Beck and Paige Harrison, *Prisoners in 2000* (Washington, D.C.: U.S. Department of Justice, 2011), 11.

⁵⁷ In December of 2011, the Uniform Crime Report program revised its definition of rape. The legacy definition of “forcible rape” was the carnal knowledge of a female forcibly and against her will. Rapes by force and attempts or assaults to rape, regardless of the age of the victim, are included. Statutory offenses (no force used—victim underage of consent) are excluded. The revised definition is “penetration, no matter how slight, of the vagina or anus with any body part or object, or oral penetration by a sex organ of another person, without the consent of the victim. Attempts or assaults to commit rape are also included; however, statutory rape and incest are excluded.

⁵⁸ Luis deBaca, *Incidence and Prevalence of Sexual Offending Pt II* (Washington, D.C.: U.S. Department of Justice, 2015), 4.

above capacity, and the federal prison system was operating 31% over capacity, creating new economic and material demand for community supervision.⁵⁹

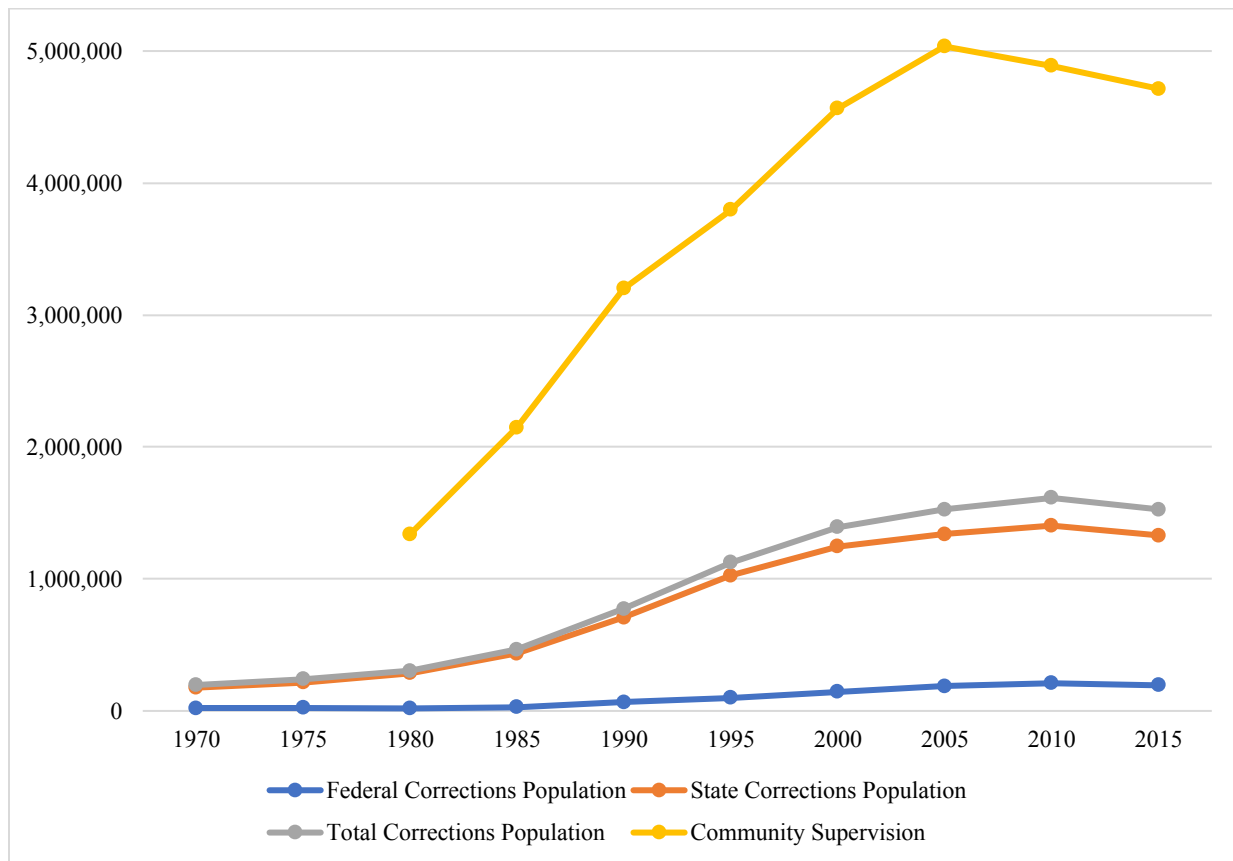


FIGURE 5.2 U.S. Corrections and Community Supervision Population, 1970-2015. Source: Bureau of Justice Statistics, *National Prisoner Statistics, 1978–2017*. Note. Bureau of Justice Statistics data on the adult parole and probation population begins in 1980.

⁵⁹ Ibid. p. 9.

It is a challenge to identify the extent of crowding in corrections facilities because of a lack of uniform measures to define capacity.

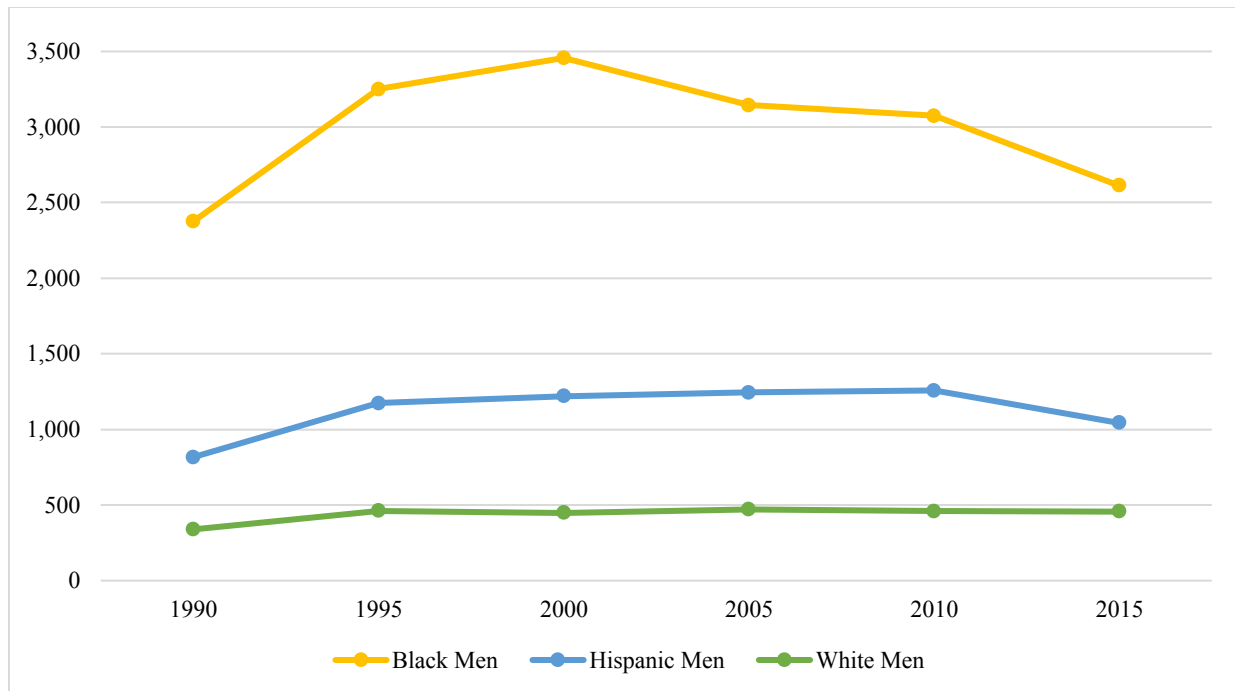


FIGURE 5.3 U.S. Male Prison Population by Race per 100,000 in Population, 1990-2015. Source: Bureau of Justice Statistics, *National Prisoner Statistics, 1978–2017*.

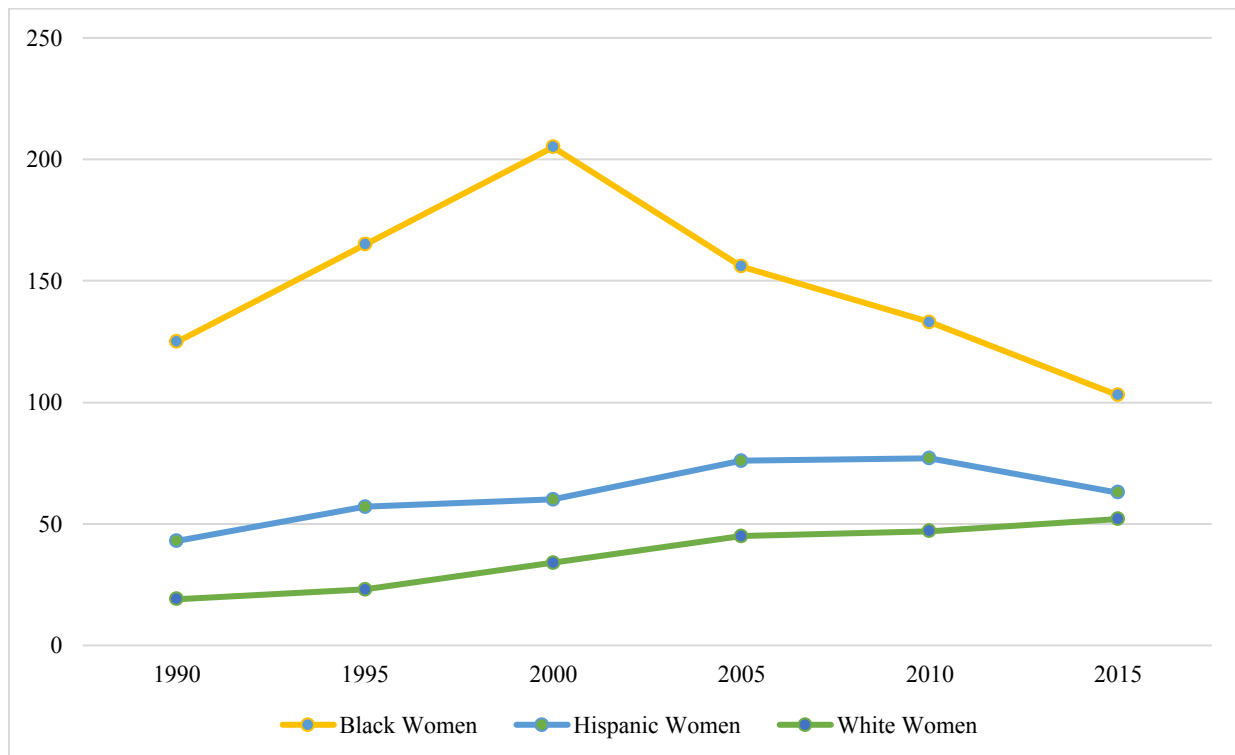


FIGURE 5.4 U.S. Women Prison Population by Race per 100,000 in Population, 1990-2015. Source: Bureau of Justice Statistics, *National Prisoner Statistics, 1978–2017*.

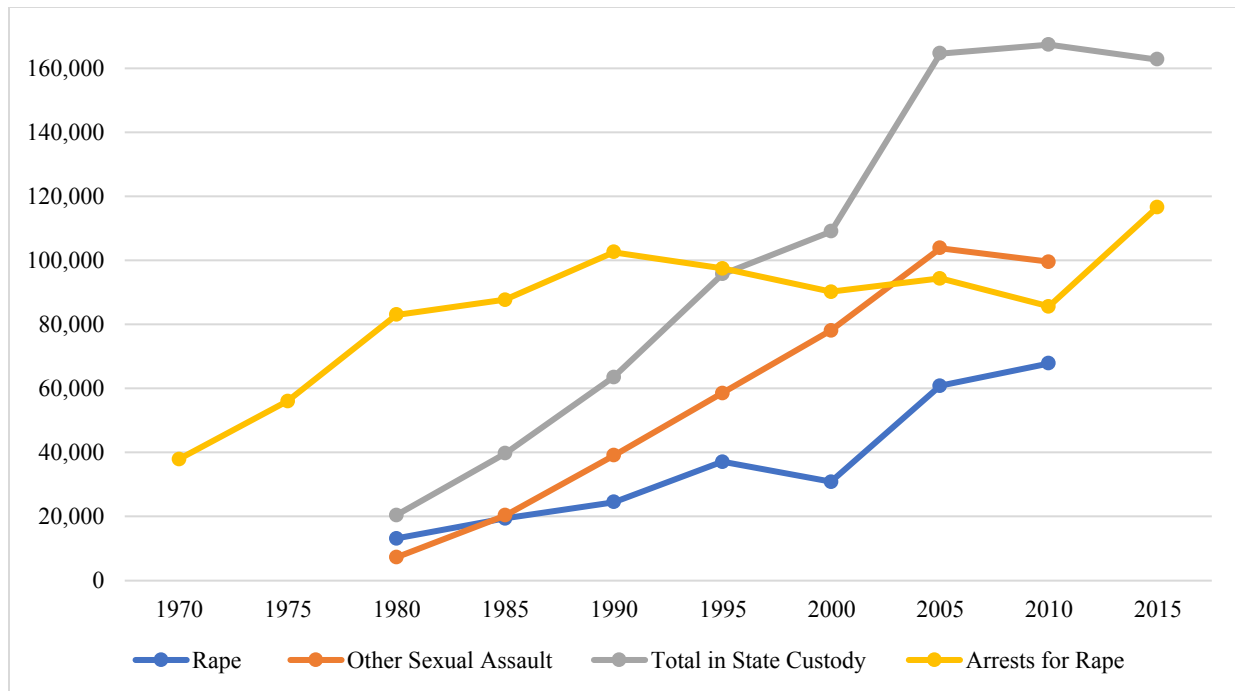


FIGURE 5.5 Estimated Number of Prisoners in Custody of State Correctional Authorities by Most Serious Sexual Offense, 1970-2015. Source: Bureau of Justice Statistics, *National Prisoner Statistics, 1978–2017*; U.S. Department of Justice, *Uniform Crime Report, 1960-2016*.

Under the New Penology, the Electronic Monitor Enters the Criminal Justice System

Under the new penology, the collective desire to increase the state’s ability to incapacitate, deter, and punish replaced the rehabilitative ideal. This new discursive sensibility towards punishment accompanied the material and increasingly racialized penal state apparatus of mass incarceration that sought the efficient regulation of risky populations, drawing further upon statistical and technoscientific management techniques. The implementation of mandatory minimum sentencing greatly expanded the prisoner population ultimately creating a new demand for cost-efficient methods and means of control—particularly community supervision. As the cost of incarcerating one prisoner was between \$20,000 and \$30,000 per year, new technologies were

sought to save money.⁶⁰ Moreover, as digital telephone networks replaced analog ones, the ability to integrate the systems with more powerful and less costly computer processes increased the viability of placing “risky” populations, particularly sex offenders, under electronic supervision.

The meaning and purpose of the electronic monitor was re-envisioned under the politics of the new penology and co-produced its ideals. Albuquerque State District Court Judge Jack Love was a formative actor in assigning these new meanings to the electronic monitor. Judge Love was famously inspired by a 1977 issue of the *Spiderman* comic, in which the villain Kingpin attaches a bracelet to Spiderman’s wrist to monitor his movements.⁶¹ Judge Love believed that such a technology could be used for controlling released offenders and enforcing house arrest. In contrast to the Schwitzgebels’ rehabilitation paradigm, which constructed the monitor as a persuasive means of positive reinforcement and two-way communication, Judge Love re-imagined the monitor as a unidirectional method of punishment and state control. To realize this vision, Judge Love persuaded Michael Goss, a computer salesman, to develop a radio-frequency ankle-worn electronic monitoring system based on the Schwitzgebel brothers’ design. To test the prototype, Judge Love wore the device himself for three weeks,⁶² and the pair ultimately trademarked the GOSSlink. This device worked by connecting to a landline telephone system and then emitting a radio signal, every 30 to 90 seconds, to a computer. The subsequent record helped to determine if the wearer travels more than 150 feet from the landline phone.⁶³

The first commercial application of the electronic monitor was used in 1983 on five New

⁶⁰ Matthew DeMichele and Brian Payne *Offender Supervision with Electronic Technology: Community Corrections Resource* (Washington, D.C., U.S. Department of Justice, 2009).

⁶¹ *New York Times*, “Business Technology: Electronic Devices Tracking Parolees,” April 22, 1987, D7.

⁶² *Ibid.*

⁶³ *New York Times*, “Electronic Monitor Turns Home Into Jail,” February 12, 1984, 58.

Mexico offenders as directed by Judge Love's orders.⁶⁴ The Albuquerque District Attorney Steven Schiff, who facilitated the first use of GOSSlink, told the *New York Times*:

Philosophically, I think there's a place for it in the system. As it has been used, it helps enforce curfew provisions for probationers, but for someone like a first-time shoplifter, it could be used as a mild punishment itself, requiring the person to stay home nights and weekends for a specified time.⁶⁵

Michael Goss formed the National Incarceration Monitoring and Control Systems company that same year and began producing the GOSSlink en masse.⁶⁶ Later that year, the Department of Justice awarded the University of Albuquerque \$5,000 to assess the effectiveness of the devices and develop a typography of "what types of offenders it might effectively control."⁶⁷ Soon, other entrepreneurs collaborated with local prosecutors to institutionalize their own monitoring systems. In 1983, Thomas Moody, an electronics businessman and bail bondsman, convinced Key Largo, Florida, Judge Allison DeFoor to allow criminal offenders to wear his electronic monitors, called "The Supervisor."⁶⁸ Similarly, in Salt Lake City, Trac Control Systems began selling monitors to law enforcement.

The previous public and legal resistance faced by the Schwitzgebels' faced quickly dissipated, and the state use of the monitor spread quickly. By 1985, forty-five corrections agencies had adopted electronic monitoring programs, with more than 1000 offenders being monitored.⁶⁹ The next year, the Texas Criminal Justice Policy Council declared that the "public's demand for punishment,"⁷⁰ which had led to institutional overcrowding, "created an

⁶⁴ Matthew DeMichele, Brian Payne, and Deanna Button, Deanna, *A Call for Evidenced-based Policy* (Lexington, KY: Council of State Governments, 2007).

⁶⁵ *New York Times*, "Electronic Monitor Turns Home Into Jail."

⁶⁶ David Savold, "Electronic Jailer," *Science*, 5, no. 80 (1984).

⁶⁷ *New York Times*, "Electronic Monitor Turns Home Into Jail,"

⁶⁸ Robert Schwitzgebel Gable, "The Ankle Bracelet is History: An Informal Review of the Birth and Death of a Monitoring Technology," *Journal of Offender Monitoring*, August, (2015): 10.

⁶⁹ *New York Times*, "Business Technology: Electronic Devices Tracking Parolees."

⁷⁰ In response, Texas legislators formed the first-ever state committee to assess the feasibility of using electronic monitors and "house arrest" as an alternative to incarceration and traditional forms of probation and parole.

unprecedented demand for diversion in which market conditions were attractive enough to encourage the private sector to make [electronic monitoring] technology commercially available.”⁷¹ They further noted how this demand had created a “two-headed dragon” of massive overcrowding and fiscal pressure to spend more on corrections with which policy makers must now contend.⁷² They cautioned as to the ultimate efficacy of the technology: “advocates argue that the technology has the potential to reduce jail and prison populations. Whether or not this will occur is an empirical question which is not yet answerable.”⁷³

We now know electronic monitors did not reduce prison populations; rather, they reinforced the control paradigm and supported the expansion of the carceral state. Unfortunately, the Bureau of Justice Statistics does not regularly collect information on the use of electronic monitors. Figure 5.6 shows the number of adults under community supervision in the U.S., and Figure 5.7 shows the available national data on radio-frequency and GPS electronic monitor in the U.S collected by the *Journal of Offender Management*.⁷⁴ While offering only a snapshot, Figure 5.6 illustrates how around 2000, the real market for electronic monitoring in the criminal justice system came to fruition after the U.S. military allowed civilian GPS receivers to become more precise and accurate.⁷⁵ In 2000, radio-frequency electronic monitoring systems were in place in all fifty states, with 95,000 people being supervised in this form of electronic monitoring system.⁷⁶ A decade later, more than 200,000 people were subject to GPS and radio-frequency

⁷¹ Texas Criminal Justice Policy Council, *Electronic Monitoring of Offenders* (Huntsville, TX: Criminal Justice Center, 1986).

⁷² Ibid, vii.

⁷³ Ibid, viii-viv.

⁷⁴ Local jurisdictions are not required to report how many people in their jurisdictions are wearing electronic monitors. The data here likely underestimate the use of GPS monitors and provide an incomplete snapshot.

⁷⁵ President Ronald Reagan had previously opened the Global Positioning System to the public on September 16, 1983 after Soviet aircraft accidentally shot down a Korean passenger jet. However, to ensure that the military retained the best data, civilian GPS systems would only be accurate to only about 100 meters.

⁷⁶ James Kilgore, “Electronic Monitoring: Some Causes for Concern,” *Prison Legal News*, March 15, 2012, <https://www.prisonlegalnews.org/news/2012/mar/15/electronic-monitoring-some-causes-for-concern/>.

monitoring devices, and forty-six states and the District of Columbia all had legislation in place to govern electronic monitoring.⁷⁷ The increase in GPS monitoring specifically accounts for the significant growth rate.

Parole and probation officers' perception that GPS monitors increased their ability to track offenders led to further expansion in electronic monitoring. However, it also allowed the state to pass on the costs of operating community supervision. A 2014 study by NPR and the Brennan Center found that every state except for Hawaii required offenders to pay at least part of the cost of electronic monitoring—a policy that further impacts poor people under community supervision.⁷⁸ Although, as previously noted, the Bureau of Justice Statistics does not collect comprehensive data on electronic monitors, a 2016 PEW Trust survey of eleven electronic monitoring companies, who comprise approximately 96% of the market, estimated that between 2005 and 2015, the number of accused and convicted criminal offenders with electronic tracking devices increased by 140%.⁷⁹ However, as PEW excluded the use of court-mandated smartphone tracking technology, the true number is likely much higher.

As GPS tracking stabilized in the criminal justice system as a viable form of community corrections, state legislatures were quick to introduce laws to regulate the geospatial movements of sex offenders. The widespread implementation of Jessica's Laws in the U.S.—mandating that sex offenders wear GPS monitors for life—built the legal infrastructure to create an enduring population of criminal offenders required to wear monitors. Jessica Lunsford (1995-2005) was

⁷⁷ For an extensive summary of the legislative patterns found by these authors appears in Table 15 of Deanna M. Button, Matthew DeMichele, and Brian K. Payne, "Using Electronic Monitoring to Supervise Sex Offenders: Legislative Patterns and Implications for Community Corrections Officers," *Criminal Justice Policy Review* 20, no. 4 (2009): 414-436.

⁷⁸ Joseph Shapiro, "As Court Fees Rise, The Poor Are Paying the Price," *NPR*, May 19, 2014, <https://www.npr.org/2014/05/19/312158516/increasing-court-fees-punish-the-poor>.

⁷⁹ PEW Charitable Trusts, *Use of Electronic Offender-Tracking Devices Expands Sharply*, September 7, 2016, http://www.pewtrusts.org/~media/assets/2016/10/use_of_electronic_offender_tracking_devices_expands_sharply.pdf.

nine when she was abducted, raped, and murdered by neighbor John Couey, a 46-year-old sex offender. Couey confessed to the crime and was given a death sentence. Although Couey would never be released, and ultimately died in prison of natural causes, Jessica's father, Mark Lunsford, pursued legislation to provide for the stringent electronic monitoring of released offenders that has since been adopted in 42 states.

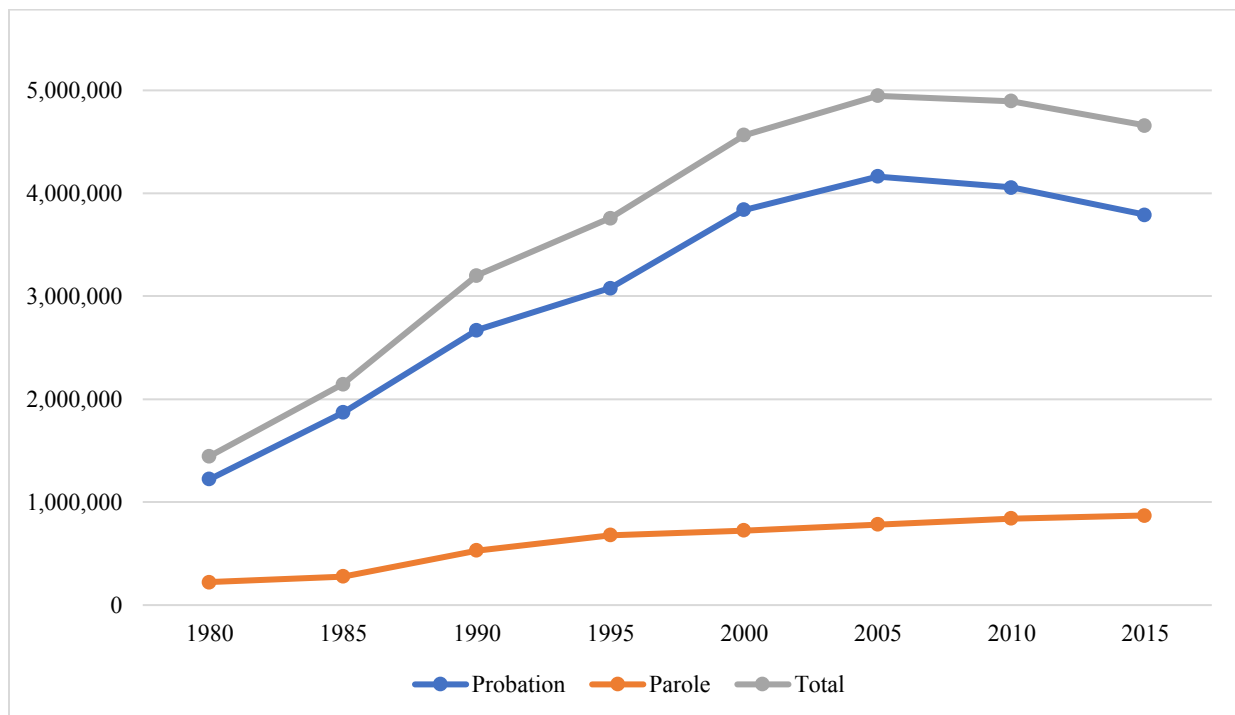


FIGURE 5.6 U.S. Adults Under State or Federal Community Supervision, 1980-2015. Source: Bureau of Justice Statistics, *National Prisoner Statistics, 1978-2017*.

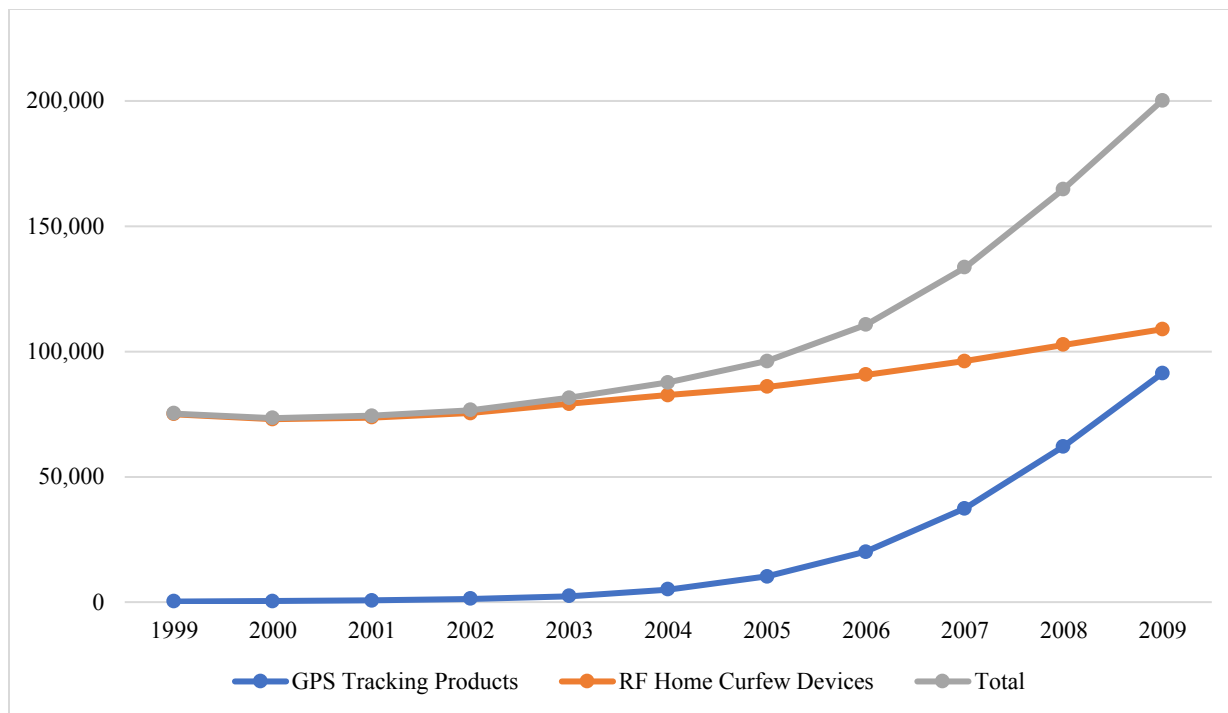


FIGURE 5.7 Use of Radio-Frequency and GPS Tracking Products in the U.S. Source. DeMichele and Payne, *Offender Supervision with Electronic Technology*.

White Heteronormativity and the Human-Machine Construction of Accountability

There are a variety of complicated reasons why state legislatures were quick to introduce laws to regulate the geospatial movements of sex offenders. Much has been comprehensively covered elsewhere, including analyses of how racial and gender norms shaped the tone and tenor of early sex crime moral panics,⁸⁰ and of how heteronormativity and perceptions of sodomy shaped the development of the early 1900s sexual predator laws⁸¹ and their subsequent resurgence in the

⁸⁰ For more on the rise and fall of various sex crime panics, see Phillip Jenkins, *Moral Panic: Changing Concepts of the Child Molester in Modern America* (New Haven: Yale University Press, 1998); and Estelle Freedman, "Uncontrolled Desires: The Response to the Sexual Psychopath," *Journal of American History*, 74 (1987): 83-106.

⁸¹ See, George Chauncey, *Gay New York: Gender, Urban Culture, and the Making of the Gay Male World 1890-1940* (New York: Basic Books, 1995).

1990s.⁸² However, at the core of the critical literature on sex offenders, is a focus on how “outsider” masculinities—which are frequently constructed as foreign and corrupt—are perceived as threatening to normative white American masculinity.

As noted earlier, the sex offender figure has historically been constructed as white, and, increasingly, as a middle-aged male sexual deviant. This construction has its roots in racialized psychiatric storytelling,⁸³ in which psychiatrists hypothesized that men who committed sexual crimes were psychosexually immature. However, the medicalization of psychosocial development also reflected a kind of racial stereotyping in which there was a tendency “to simply treat Black sex offenders as criminals and put them in general population, rather than in a relatively cushy, therapeutic prison.” Historian Stephen Robertson describes this pattern of racial stereotyping from the 1930s to the 1960s:

. . .the concept of psychosocial development allowed psychiatrists to effectively whitewash the sexual psychopath, to ensure that he did not undermine the figure of the bestial Black rapist that justified the incarceration or killing of African-American offenders. Consequently, the sexual behavior that characterized white men as immature and abnormal, was problematically viewed as “normal” for African-American men and they were pushed outside the psychiatric discourses.⁸⁴

Norms in the media’s reporting of sex crimes upheld this view. Media spectacles focused on sensational execution cases such as child rape murderers Albert Fish (1879-1936),⁸⁵ Fred Stroble (1881-1952), and Lawrence Marks (unknown-1938).⁸⁶

⁸² Jenkins, Phillip. (1998). *Moral Panic: Changing Concepts of the Child Molester in Modern America*. New Haven: Yale University Press.

⁸³ Judith Levine, “Sympathy for the Devil: Why Progressives Haven’t Helped the Sex Offender, Why They Should, and How They Can,” in *The War on Sex*, ed., Trevor Hoppe (Durham, NC: Duke University Press, 2017): 126-173.

⁸⁴ Stephen Robertson, “Separating the Men from the Boys: Masculinity, Psychosexual Development, and Sex Crime in the United States, 1930s-1960s,” *Journal of The History of Medicine and Allied Sciences* 56, no. 1 (2001): 4.

⁸⁵ Albert Fish, known as The Brooklyn Vampire, Moon Maniac, The Boogey Man, and the Werewolf of Wysteria solidified the image of the sex offender as a child murderer. Fish was tried, found guilty, and executed for multiple child rape and murders.

⁸⁶ Lawrence Marks was convicted for the murder of eight-year-old Paula Magagna in 1938.

Sociologist Chrysanthi Leon describes how through the Sexual Psychopath era, journalists sensationalized “the white, homicidal killer as the public continued to fear the Black rapist as the bogeyman,” resulting in a disproportionate number of white offenders facing civil commitment in psychiatric facilities, while Black and Mexican men faced disproportionate rates of incarceration.⁸⁷ As Stuart Kirk notes, “whites may have to engage in more ‘unusual acts’ in order to get convicted and committed to the hospital, while Blacks are committed for less ‘deviant’ behavior.”⁸⁸

However, with the punitive turn, social and legal attitudes towards sex offenders of any race toughened in what has come to be called “The Containment Era” (1980-present). Jonathan Simon describes how the growing “hostility towards medicalization” under the new penology resulted in the re-conceptualization of sex offenders—of any race—as sexual deviants and “modern-day monsters.”⁸⁹ The application of GPS technology to the social management of sex offenders is a direct effort to apply the utopian vision of perfect spatial knowledge and order to the regulation of criminal sexuality. The currently available GPS software combines location tracking with near real-time crime-mapping to equip local police jurisdictions with knowledge about the whereabouts and movements of offenders.

Contemporary offender-tracking technology relies on a human-machine surveillant assemblage that works to efficiently manage and control sex offender whereabouts. To enable this knowledge system, the GPS monitor must be affixed to the offender’s body and positioned in a way that it can “see” and communicate with satellites. Each offender is required to maintain three technological components: (1) a transmitter cuff (ankle bracelet), (2) a personal tracking

⁸⁷ Chrysanthi S. Leon, *Sex Fiends, Perverts, and Pedophiles: Understanding Sex Crime Policy in America*. (New York: NYU Press, 2011), 70.

⁸⁸ Stuart A. Kirk, “The Sex Offenses of Blacks and Whites,” *Archives of Sexual Behavior* 4, no. 3 (1975): 301.

⁸⁹ Simon, “Managing the Monstrous.”

unit (PTU) that is worn on the waist, and (3) a charger base unit used to charge the batteries of the device.⁹⁰

Signals from the GPS satellites construct a digital map of sex offender movements to compare against sex offender geographic exclusion zones. There are three types of GPS monitoring used to supervise offenders: *active*, *passive*, and *hybrid GPS systems*. In *passive GPS monitoring*, also known as “after-the-fact” monitoring, the information collected from a sex offender’s whereabouts are downloaded to a monitoring center once or twice daily and is reviewed by the supervising officer. In *active GPS monitoring*, or “real-time monitoring,” the information is transmitted every few minutes. *Hybrid GPS monitoring* generally operate in passive mode until any of predetermined triggering events occur (e.g., zone infractions, tamper indications, low power status), at which time they switch to an active reporting mode.

From an institutional efficiency perspective, active and hybrid GPS monitoring have particularly captured the imagination of police and policymakers. For example, one Tennessee probation and parole officer describes how GPS monitoring has “made it much easier to be able to schedule my time more efficiently and be able to monitor more than just offender curfews.” Another stated that “without GPS, I feel like someone took away my glasses. No, I don’t see perfect with them, but it’s better than being blind.” And a third officer observed that “if [offenders] aren’t on GPS, I simply don’t have the time to follow them around. We’re here to protect the public and help reduce the number of victims. GPS helps us do that without having to build more prisons.”⁹¹

⁹⁰ The transmitter cuff, which is permanently attached to the offender’s ankle, contains a battery with a one-year lifespan that provides notice when the power is low. The cuff contains fiber optic cables and electrical circuit that generates an alert if it is cut, stretched, or otherwise tampered with. The cuff communicates with the PTU through radio frequency signals and must always be within a particular range of the device. Offenders must always carry the PTU with them, except when at home, as the PTU collects GPS coordinates by communicating with GPS satellites.

⁹¹ Jack Wagner, *Using GPS Technology to Track Sex Offenders: Should Pennsylvania Do More?* (Philadelphia, PA: Pennsylvania Department of the Auditor General, 2008), 27.

However, GPS electronic monitoring is not merely facilitating the exchange of neutral spatial and temporal data points, it is also disciplining how sex offenders participate in social life. Scholars Emily Troshynski, Charlotte Lee, and Paul Dourish use a Foucaultian conception of surveillance to recast location-based systems beyond a mere method to “track and disclose” location.⁹² They suggest that electronic monitoring systems hold wearers “accountable for their presence and absence at certain times and places,” and that the surveillance of electronic monitoring renders space legible both “from within”—meaning the ways in which people render spaces legible through their embodied actions, habitations, and navigations in those spaces—and “from without”—referring to how the structure of the space is read and interpreted by others. In other words, the merging of officer and technology together means that electronic monitoring restricts participation in some social activities while mandating participation in others—through accountabilities of both absence and presence.

This conceptualization is useful in reconceiving geolocational devices as not merely a means to provide neutral, locational datapoints, but relational and value-laden technology. Offenders’ accountability to particular public spaces is influenced by how the state reads and assigns meanings to particular social locations and subsequently legislates access to those spaces. As the sexuality of sex offenders is considered dangerous and monstrous, prohibiting sex offenders from entering certain spaces disciplines their participation in social life. However, it also disciplines the physical bodies of sex offenders to become accountable not only to spatial boundaries and legal regulations, but also to the technological and financial demands of the electronic system itself.

Recall that the monitor must be affixed to the offenders’ body and positioned so that the

⁹² Emily Troshynski, Charlotte Lee, and Paul Dourish, “Accountabilities of Presence: Reframing Location-Based Systems,” *Droit et Cultures. Revue Internationale Interdisciplinaire* 61 (2011): 171-193.

monitor can “see” satellite systems and Wi-Fi networks. When satellites and Wi-Fi systems fail—a frequent and recurrent problem—offenders become accountable for those glitches or absences. A 2011 National Institute of Justice study of 5,000 offenders who were subject to electronic monitors, found that the devices often fail when offenders are inside buildings, requiring them to have to go outside to reestablish the signal, even while at work.⁹³ This digital glitch creates conflict for offenders at work and puts them at risk for re-incarceration even if they have not committed another sexual crime. The Institute found that 22% of offenders in the cases it reviewed had lost a job because of electronic monitoring, and 33% of that group attributed the job loss to signal failure. Another 5% cited the visibility of the physical unit—and the negative associations of someone who must wear a monitor as “dangerous”—as a cause for termination. The economic burden of wearing an electronic monitor is exacerbated in that states often require offenders to pay a fee to maintain the monitors—typically between \$10 to \$15 per day.⁹⁴

Monitoring Sexual Subjectivities and Racialized States of Exception

It is important to realize that while also carrying racialized and gendered meanings, the contemporary sex offender is a figure always already in tension with the neoliberal subject. Whereas neoliberalism generates and prefers subjectivities that are flexible, and which have the capacity for change and self-restraint, as constructed through popular narratives under the new penology, the sex offender is represented as the ultimate unchangeable subject.⁹⁵ This

⁹³ National Institute of Justice, *Electronic Monitoring Reduces Recidivism* (Washington, D.C.: U.S. Department of Justice, 2011), 2.

⁹⁴ Kilgore, *Electronic Monitoring: Some Causes for Concern*.

⁹⁵ Spencer, “Sex Offender as Homo Sacer.”

perspective is clearly evidenced from the 1990s Sexually Violent Predator laws that provide for publicly searchable registries of sex offenders, continuing through Megan's Law and state-based laws allowing for lifetime GPS monitoring of convicted offenders. Thus, in contrast to the neoliberal citizen, for whom state intervention and ubiquitous surveillance is viewed as restricting personal and legal freedoms, the sex offender is a lawless aberration and irredeemable subject who warrants extreme forms of techno-legal supervision.

Sociologist Dale Spencer describes how Giorgio Agamben's theory of the *homo sacer* is useful to understanding the harsh regulatory dimensions and states of exception applied to sex offenders.⁹⁶ Agamben characterizes the *homo sacer* as a werewolf—a life between animal and man that is without value that does not deserve to live.⁹⁷ In line with this construction, Spencer argues that the sex offender can be likewise conceived as a noncitizen or “bare life”—the *homo sacer*—and that community notification and civil commitment laws produce a “banning” of sex offenders that puts them into a lawless space, or “camp.”⁹⁸ Within this camp, the sex offender figure becomes a life without form and value, stripped of the political and legal rights accorded to the normal citizen.

Today the popular imagery of the sex offender encompasses men of a variety of racial backgrounds. However, as with the broader racist practices of mass incarceration, poor people and people of color continue to be particularly vulnerable to sex offender regulations. Analyses of the racial demographics of sex offender registries in the U.S. consistently find that Black people are overrepresented on registries. Legal scholar Daniel Filler analyzed registries in seventeen states and found that Black people are 1.9 times more likely than white people to be on

⁹⁶ Ibid, 219.

⁹⁷ Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare life* (Stanford: Stanford University Press, 1998), 105.

⁹⁸ Spencer, "Sex Offender as Homo Sacer."

registries.⁹⁹ Alissa Ackerman and her colleagues similarly examined the records of 445,000 people on registries and similarly found that Black people are twice as likely to be on registries.¹⁰⁰ In addition, Bobbie Ticknor and Jessica Warner found that African Americans spend more time on sex offender registries and are 2.5 times more likely to be overclassified, requiring that they be subject to additional state supervision and control.¹⁰¹ As Black male sexuality is often portrayed as more dangerous and hypersexual than white male sexuality,¹⁰² and given that Black communities are so disproportionately entangled in the prison industrial complex, Black men's overrepresentation in sex offender registries is perhaps not surprising.

However, they are also more likely to be falsely convicted. In a 2017 analysis of the role of race and wrongful convictions, The National Registry of Exonerations estimates that 59% of sexual assault exonerees are Black—nearly 4.5 times greater than the proportion of Black men in the general public,¹⁰³ and that a Black prisoner serving time for sexual assault is 3.5 times more likely than a white sexual assault convict to be innocent.¹⁰⁴ Black men are also more likely to be falsely accused of stranger sexual crimes. And although strangers commit only 1 in 5 assaults on women, they comprise 71% of false convictions that result in exonerations.

The leading cause of sexual assault exonerations is eyewitness misidentifications. In half of all sexual assault exonerations with eyewitness misidentifications, Black men were convicted of raping white women, a racial combination that appears in less than 11% of sexual assaults in

⁹⁹ Daniel M. Filler, "Silence and the Racial Dimension of Megan's Law," *Iowa Law Review* 89 (2003): 1535.

¹⁰⁰ Alissa R. Ackerman, Andrew J. Harris, Jill S. Levenson, and Kristen Zgoba, "Who are the People in Your Neighborhood? A Descriptive Analysis of Individuals on Public Sex Offender Registries," *International Journal of Law and Psychiatry* 34, no. 3 (2011): 149-159.

¹⁰¹ Bobbie Ticknor, and Jessica J. Warner, "Evaluating the Accuracy of SORNA: Testing for Classification Errors and Racial Bias," *Criminal Justice Policy Review* 31, no. 1 (2020): 3-21.

¹⁰² Robert M. Entman and Andrew Rojecki, *The Black Image in the White Mind: Media and Race in America* (Chicago: University of Chicago Press, 2001).

¹⁰³ The National Registry of Exonerations, *Race and Wrongful Convictions in the United States* (Irvine, CA: University of California, 2017), 11.

¹⁰⁴ *Ibid.*, 12-13.

the United States.¹⁰⁵ Black men convicted of sexual assault also account for 40% of rape exonerations due to “racially tainted investigations,”¹⁰⁶ in which the behaviors and decisions by critical players such as law enforcement, attorneys, judges, and jurors are shaped by anti-black racism. While approximately 88% of sexual assault cases convictions are based on guilty pleas pursuant to plea bargains, 96% of exonerees went to trial. Black men are punished more heavily for maintaining their innocence. In an analysis of felony sentences in state courts in 2000, among exonerees with no prior criminal convictions, the average sentence for white exonerees was 19 years, while the average sentence for Black exonerees was 32 years.¹⁰⁷ Sexual assault convicts with longer sentences and who are deemed more “dangerous” are more likely to be subject to wearing an electronic monitor.

The gendered and racial politics of electronic monitors are further complicated if we understand that the monitoring gaze has been extended to the sexual subjectivities of a second group—girls entangled in the sexual abuse to prison pipeline. As several scholars and activists have noted, since 2000, the rate of girls’ arrest and incarceration has increased dramatically. Girls of color and LGBT girls are disproportionately affected by this trend.¹⁰⁸ For example, whereas Black girls make up 14% of the national youth population, 33.3% of girls who are detained and committed in the juvenile justice system are African American; similarly, while Native American girls comprise 1% of the national youth population, 3.5% of girls involved in the juvenile justice system are Native American. Although lesbian, gay, bisexual, and transgender or gender nonconforming girls comprise 5-7% of the general population, they represent 13—15% of youth who come in contact with the juvenile justice system. Researchers

¹⁰⁵ Ibid, 12.

¹⁰⁶ Ibid, 13.

¹⁰⁷ Ibid, 15.

¹⁰⁸ Saar et al., *The Sexual Abuse to Prison Pipeline*.

suggest that approximately one in five youth who are in this system are supervised through electronic monitors to track curfews and geographic exclusion zones, and even to record youth's conversations.¹⁰⁹

Advocates of criminal justice reform attribute the rise in girls' arrest rates to the state's increasingly aggressive enforcement of low-level and non-serious behavioral offenses—many of which can be characterized as “acting-out” or “cry-for-help” behaviors that are rooted in a response to past or ongoing experiences of sexual abuse and trauma.¹¹⁰ In an examination of the role of sexual abuse in shaping girls' involvement with the juvenile justice system, Simkins and her colleagues found that girls dealt with the trauma of abuse by “turning to drugs to deal with the chaos in their lives, and to self-medicate.¹¹¹ The abuse [affected] their ability to function in school, and [drove] behaviors that resulted in incarceration.” Obviously, the justice system's focus on punishment and containment is an unhelpful and ill-equipped place to address and support abuse victims. The decision to arrest girls for these offenses is partly based on the perception that these girls are violating gendered norms and stereotypes of feminine behavior,¹¹² that articulate to whiteness. As criminologist Jyoti Nanda explains, “actors in the juvenile justice system are likely to view girls of color and Black girls in particular as delinquents—as social problems themselves rather than as young girls affected by social problems.”¹¹³

Consequently, there has been a dramatic rise in punishing survivors of abuse—rather than

¹⁰⁹ Chicago's Cook County Juvenile Justice System came under scrutiny after investigative reporting into Track Group's electronic monitor “ReliAlert XC3” could record the conversations of juveniles without their knowledge. See also Kira Lerner, “Chicago's Ankle Monitors Can Call and Record Kids' Without Their Consent,” *CityLab*, April 8, 2019, <https://www.citylab.com/equity/2019/04/chicago-electronic-monitors-juveniles-can-call-and-record-them-without-consent/586639/>.

¹¹⁰ Simkins et al., “The School to Prison Pipeline for Girls.”

¹¹¹ Ibid, 60.

¹¹² Tina Freiburger and Alison S. Burke, “Status Offenders in the Juvenile Court: The Effects of Gender, Race, and Ethnicity on the Adjudication Decision,” *Youth Violence and Juvenile Justice* 9, no. 4 (2011): 352-365.

¹¹³ Jyoti Nanda, “Blind Discretion: Girls of Color and Delinquency in the Juvenile Justice System,” *UCLA Law Review* 59 (2011): 1507.

in addressing the trauma of abuse through comprehensive, wrap-around social services and individualized therapy. A federal study by the U.S. Department of Justice suggests that 31% of girls in the juvenile justice system have been sexually abused.¹¹⁴ Studies conducted at the state level suggest that often a much larger proportion of girls involved in the juvenile justice system have experienced one or more forms of sexual abuse. For example, a study of girls in Florida's juvenile justice found that 84% had experienced family violence and 31% had been sexually abused.¹¹⁵ Similarly, Dana Smith, Leslie Leve, and Patricia Chamberlain found that 93% of girls in Oregon's juvenile justice system had experienced sexual or physical abuse.¹¹⁶ Dehart found that 81% of girls in the South Carolina juvenile justice system have experienced sexual violence and 42% had experienced dating violence.¹¹⁷

While there are no national statistics on the number of juvenile offenders on electronic monitoring—research suggests the number is high.¹¹⁸ Young survivors of abuse who are entangled in the juvenile justice system and ordered to wear electronic monitors are subject to the same methods of control as sex offenders. Girls are subjected to the same rigid spatial accountabilities of presence and absence, which Kate Weisburd argues increases their isolation and can negatively affect their cognitive and social development.¹¹⁹ Sexual abuse survivors ordered to wear the monitor must also become accountable to the economic demands of the system by paying a daily, weekly, or monthly maintenance fee—a practice that

¹¹⁴ Patricia K. Kerig and Stephen P. Becker, "Trauma and Girls' Delinquency," in *Delinquent Girls*, eds., Leve Miller, Stephen Becker, and Patricia Kerig (New York: Springer, 2012), 119-143.

¹¹⁵ Leslie Acoca, *National Council on Crime and Delinquency, Educate or Incarcerate? Girls in Florida and Duval County Juvenile Justice System* 45 (November 2000).

¹¹⁶ Dana K. Smith, Leslie D. Leve, and Patricia Chamberlain, "Adolescent Girls' Offending and Health-Risking Sexual Behavior: The Predictive Role of Trauma," *Child Maltreatment* 11, no. 4 (2006): 346-353.

¹¹⁷ Dana D. DeHart, *Poly-Victimization Among Girls in The Juvenile Justice System* (Columbia, S.C.: The Center for Child and Family Studies, 2009).

¹¹⁸ Samuelson Law, Technology, and Public Policy Clinic, *Electronic Monitoring of Youth in the California Juvenile Justice System* (Berkeley: University of California, 2017).

¹¹⁹ Kate Weisburd, "Monitoring Youth: The Collision of Rights and Rehabilitation," *Iowa Law Review* 101 (2015): 327-28.

disproportionately burdens low-income families, who must pay into a criminal justice system that exacerbates the economic consequences of sexual abuse. As such, the electronic monitor is a carceral technology that regulates multiple sexual subjectivities—those of both survivor and perpetrator.

Conclusion

The paradigm shift in both the symbolic meaning of the electronic monitor and in penological theories of incarceration has led to the dual punishment of sexual violence. Undoing this will also require another paradigm shift toward more liberatory alternatives. As long as policymakers and practitioners continue to view the electronic monitor as a cost-efficient means to increase public safety, its use will likely continue, if not expand. Despite decades of evidence that harsh sex offender regulations do little to prevent sexual violence—and likely only increase the chances of recidivism—there is little momentum to reverse the Sexually Violent Predator and state laws that regulate sex offender movements. Sex offenders are unsympathetic figures and continue to be scapegoats for punitivism. Similarly, despite some local efforts led by youth advocates, there is no unified movement to address the abuse to prison pipelines that occur across the more than 18,000 police jurisdictions in the U.S. Undoing the “abuse to prison” pipelines will require a cultural reckoning with how racist sexism results in indifference towards the sexual abuse of Black and brown girls—something citizen-activists can, and should, take on.

6

From a Legal to a Techno-Legal Response to Violence

Anti-sexual violence technologies are a vital part of how citizen-activists and official state actors—as *mobilized publics*—seek to prevent, report, investigate, and punish sexual violence. The stabilization of these technologies in the market and the legal system is signaling a shift in the dominant response to sexual violence: from a legal to a *techno-legal* response. In this dissertation, I have focused on how mobilized publics design technologies to create both social and legal changes. Yet, as these previous chapters reveal, citizen-activists and official state actors form networked technologies that work to both disrupt existing regimes and their approach to sexual violence (i.e., anti-rape product inventors), as well as uphold these approaches (i.e., state endorsers of the electronic monitor).

In general, different types of social movements generate different levels of “epistemic conflict” based on the degree to which they align with hegemonic knowledge systems—with the highest epistemic conflict typically occurring in “oppositional movements” seeking an end to a given political or technological system. However, as this dissertation has shown, rather than generate substantial epistemic conflict, the techno-legal movements examined here primarily work to uphold the conservative norm of formal justice. While rape prevention products do offer

complex responses and exceptions that de-center legal responses by activating interpersonal safety networks, most of the anti-violence technologies examined here support paths to the criminal justice system.

My analysis of the politics of technological design clarifies that despite the notable exception of rape prevention products, the form of many anti-violence technologies bolsters existing authoritative regimes. The designs of rape reporting platforms, for example, work to produce evidence that is legible and primarily useful to the civil and criminal justice systems. They do so by facilitating cognitive interviews and using algorithms to assemble evidence for legal action—all while offering users limited connection to alternative community-based resources. The technological enhancements to sexual assault kits, including RFID tags and tracking software, likewise work to discipline forensic evidence for use in the criminal justice system. Rather than serve to increase survivors' access to medical or therapeutic care, the goal of these enhancements is to order forensic science by facilitating the efficient circulation of kits from hospitals to police to laboratories. And electronic monitors provide correctional officers unilateral control in how sex offenders, as well as some abuse survivors, participate in social life, without attempting to address the root causes or harms of sexual violence.

Thus, while the “techno” in techno-legal response suggests these interventions offer a more efficient and effective response to sexual violence, there are reasons to be suspicious of these seemingly progressive mobilizations that typically uphold the unequal practices of the punishment industry. Foremost, as race scholars have well documented, mass incarceration is a system of racial control.¹ Chapters four and five of this dissertation highlighted two egregious

¹ See, for example: Angela Davis and Cassandra Shaylor, “Race, Gender, and the Prison Industrial Complex California and Beyond,” *Meridians: Feminism, Race, and Transnationalism*, 2, no. 1 (2001): 1-25. See also, Alexander, *The New Jim Crow*, and Tonry, *Punishing Race*.

ways in which the technology used to investigate and punish sexual violence hails Black and brown survivors within this regime. Given the compatibility of many anti-sexual violence technologies with the existing logics of the criminal justice system, as well as the compatibility of rape prevention products with capitalism, each type of technology examined here is likely to be sustained into the future. As such, the sustained use of technologies that create path dependence to the problematic existing criminal justice system will likely support the continued over-incarceration of poor and Black and brown bodies.

However, path dependence to a racist regime is not the only concern. Anti-violence technologies—as epistemic “things”—are social as well as cultural in that they do not reproduce but co-produce ideas about gender, race, sexuality, and class. Bringing an intersectional lens—and in particular, taking the standpoint of women of color—is a productive way to interrogate how power and inequality are inscribed in the technologies of mobilized publics. The anti-sexual violence technologies examined here—as organizational forms of citizen-activist and official state knowledge—largely articulate a single-axis framing of vulnerability around gender and fail to address how gender oppression is inextricably tied to other oppressions. As such, these technologies do not challenge the racialized rape myths that position poor communities and people of color as less vulnerable to violence and as more dangerous to the public.

It is through these articulations that the techno-legal response to violence co-produces gendered and racialized subjects across social, legal, and technological relations. This is apparent in the four moments examined here—from the moment of attack, to reporting, to investigation, and punishment. For example, anti-rape inventors use advertising to narrate a utopian future where these products prevent assault, thus enhancing women’s sociopolitical agency. In this sociotechnical imaginary, rape prevention technologies are not just individual products to be sold

but are part of a coherent vision of a rape-free future with provocations and goals. However, despite the prominence of racialized inventors in the market, the imagined future they narrate ultimately fail to challenge hegemonic representations of violence that center the experiences of heteronormative, white, middle-class women. In this way, this sociotechnical imaginary inadequately addresses the convergence of racism, sexism, classism, and homophobia in perpetuating sexual violence.

Similarly, proponents of rape reporting software position these platforms as a necessary part of catalyzing institutional accountability. As information infrastructures, these platforms do attempt to address the power dynamics of reporting and “spin out” new ways that survivors can deal with the sexist patterns and practices of authorities in fielding sexual abuse complaints. In particular, these platforms seek to increase accountability by minimizing the stigma and individual risk that survivors face in coming forward—what Project Callisto terms the “hesitance problem.” Drawing on the truism that coming forward by oneself renders a survivor’s complaint more dismissible, these platforms promise to provide connections between victim-survivors that will increase the likelihood that authorities will act on those complaints, particularly in the case of serial rapists. However, by operationalizing “survivorship” in race-neutral terms, these platforms reinforce whiteness in influencing authorities to redress acts of sexual violence. In doing so, rape reporting platforms are likely to reproduce existing racial and class-based inequities in rates of reporting, whereby women of color report at lower rates than their white counterparts. In failing to understand the complex ways inequality and constructions of vulnerability function within the broader culture, rape reporting platform designers fall short in creating meaningful supports for survivors traditionally viewed as “suspicious,” including LGBTQ people, poor, and women of color. Despite good intentions, then, these reporting

platforms work to the detriment of all survivors.

To enhance investigations, sexual assault kits were developed in ways which also co-produce legal “facts” about sexual violence, survivors, and perpetrators through the forensic gaze. While responsibilized survivors are obliged to take control of their lives and legal futures by submitting to forensic examination, the irresponsibilized state frequently neglects its obligation to process the collected evidence—rendering the kit as undone forensic science. Ongoing investigations into how local jurisdictions store, retain, and track sexual assault kits further expose how governance of forensic evidence is shaped by sexism and racism. The contemporary activists who have “become responsible” for ordering the state’s chaotic governance practices struggle to recreate and implement alternative evidence production agendas. These responsibilized citizen-activists—as a mobilized public—attempt to remediate the state’s sequestration and destruction of forensic evidence. They do so by challenging the cost barriers to testing kits, preserving the right to retain a kit at least through the statute of limitations, and improving tracking with electronic and RFID technology. However, in most cases, these interventions do not directly confront how racism and sexism shape which case are investigated and prosecuted.

Finally, local governments, as part of an elite carceral coalition, use electronic monitors to co-produce sex offenders’ social accountability within the racial formation of mass incarceration and punishment. Here, we see how important techno-legal regulation is in producing and punishing racialized sexual subjectivities. Since the 1970s, and especially since 2000, there has been a dramatic shift in the punitive use of electronic monitors leading to a conflation of sexual violence punishment with prevention. Against the backdrop of mass incarceration, the emphasis on punishment further entangles young Black and brown abuse

survivors in efforts to control these bodies historically deemed by law enforcement and juvenile court judges as “unruly.”

Taken together, these moments of prevention, reporting, investigation, and punishment reveal that without meaningful attention to intersectional relations of power, the designs of well-meaning anti-violence technologies will co-produce structural inequality. As demonstrated throughout this dissertation, using an intersectional lens helps to expose the historical specificity of vulnerability and the problematic construction of formal justice as a panacea for all survivors.

However, these social, legal, and technological relations are mutable and thus can be productively reconfigured. That is, mobilized publics can develop what Stefania Milan² and Safiya Noble³ call “liberated” technologies by changing the form and function of these objects in ways that better meet the needs of women of color, poor women, immigrant women and LGBTQ communities. The key to such a strategy lies in redressing how knowledge about sexual violence, survivors, and perpetrators are often constituted under white supremacy, heteropatriarchy, capitalism, and settler colonialism.

In chapter three, I proposed one way in which a more inclusive and meaningful design methodology might assist in creating progressive and more just interventions. This entails reconceptualizing technological affordances as intersectional “value hypotheses,” which designers can use to address survivors’ multiple needs while highlighting place-based practices and anti-oppression strategies. Encoding intersectional value-hypotheses into anti-violence technology can help contest the expanding racialized carceral state by de-centering legal responses and disrupting the dominant conception of rape justice as perpetrator prosecution.

² Milan, *Social Movements and Their Technologies*.

³ Noble, “A Future for Black Intersectional Black Feminist Technology Studies.”

This method offers a new design practice answering calls by Safiya Noble⁴ and Sasha Constanza-Chock⁵ to develop “design justice”—a term they use to describe designs that explicitly challenge structural inequality. For anti-sexual violence efforts specifically, this approach can help mobilize fresh conceptualizations of rape justice beyond status quo criminal justice solutions. For example, many advocates agree that preventing violence is an essential component of justice. While prevention can take many forms, feminist criminologists Moira Carmody and Kerry Carrington have long called for a “reconfiguration of discourses on prevention, [that can create] a shift in the orientation from responsabilizing victims and individualizing offenders, to promoting a cultural intolerance for unethical sexual practices.” Such a cultural shift includes eroticizing consent and reinventing romance to include the mutual pursuit of sexual pleasure.⁶ Thus, citizen-activists can liberate rape prevention technology by using intersectional value-hypotheses to not only activate local and interpersonal safety networks, but to support the prevention of violence through these alternative ways of knowing and relating sexually.

As David Hess pointed out in 2016, the field of science, technology, and mobilized publics is “still in its infancy.”⁷ The existing scholarship has helped carved new understandings of how the strategic mobilizations of “knowledge” and “ignorance” figure into public efforts to effect U.S. policy change.⁸ This field further recognizes how activists talk about the future is an action repertoire to generate social change.⁹ Scholars increasingly understanding how different mobilized publics can produce multiple and even competing meanings of the same technology.¹⁰

⁴ Ibid.

⁵ Costanza-Chock, *Design Justice* (Cambridge, MA: MIT Press, 2020).

⁶ Moira Carmody and Kerry Carrington, “Preventing Sexual Violence?” *Australian and New Zealand Journal of Criminology*, 33, no. 3 (2000): 356.

⁷ Hess, *Undone Science*, 214-215.

⁸ Daniel Lee Kleinman, and Sainath Suryanarayanan, “Dying Bees and the Social Production of Ignorance,” *Science, Technology, & Human Values* 38, no. 4 (2013): 492-517.

⁹ Abby Kinchy, “Citizen Science and Democracy: Participatory Water Monitoring in the Marcellus Shale Fracking Boom,” *Science as Culture*, 26, no. 1 (2017): 88-110.

¹⁰ Laura Foster, *Reinventing Hoodia: Peoples, Plants, and Patents in South Africa* (Minneapolis: University of Minnesota Press, 2017).

In addition to the literature on sexual violence, technology, and the law, my analysis offers several contributions to this emerging field in several ways.

First, this analysis contributes to understandings of how public participation in the creation of technology is a kind of social movement.¹¹ As I introduced in the first chapter, my use of the term *citizen-activism* reflects a mobilized expression of agency against oppressive structures that repositions various marginalized “outsiders” as meaningful actors on the political stage. Consequently, this conceptualization of *citizen-activism* draws explicit attention to the interplay of the sociological concepts of *structure* and *agency*, and to how everyday people design technology, however imperfectly, to reimagine different forms of belonging. Also, by shifting the focus away from a singular focus on protest-based collective action to investigate the interlocking epistemic and ontological dimensions of counter-public knowledge, my analysis reveals that anti-violence technologies are not simply apolitical tools to advance the universalizing goals of the anti-violence movement, but on-the-ground mediators of justice that shape the social and legal experiences of survivors and perpetrators. Furthermore, recognizing the multiple ways technology is enrolled in efforts to prevent, report, investigate, and punish the perpetration of sexual violence, is an additionally important way to consider how activist technologies constitute gendered and racialized subjects.

Second, by engaging intersectionality, this project contributes to social movement scholarship by showing that without attention to interlocking systems of power, social movement technologies will produce multiple forms of what STS scholars call “contentious knowledge” formations, including between citizen-activists and the incumbent regime, and among differently situated citizen-activists. My analysis reveals how citizen-activists and state actors design these

¹¹ Milan, *Social Movements and Their Technologies*, 235.

objects to primarily address gender-based vulnerability. Consequently, these attempts to support survivors produce new racialized forms of social control and become sites of disabling gendered and racialized knowledge production. To explicate this process, my incorporation of intersectionality both builds upon and helps to extend the material-discursive traditions of feminist STS in important ways.

Third, the study of anti-rape technology, is an emerging “hot” topic that often incorporates normative suggestions for designers.¹² My analysis offers insights useful to those working on-the-ground to develop more survivor-informed, intersectional and democratic responses to sexual violence. In particular, anti-violence activists and practitioners must be attentive to the ways in which anti-violence technology can hail survivors into sexist and racist regimes. Existing scholarship has described how the transformative power of activist technologies is mediated on the degree to which these technologies engage in “private-sector symbiosis” in which the emphasis on product innovation leads to the articulation of social movement goals with those of inventors, market entrepreneurs, and industrial reformers.¹³ This articulation limits the transformative potential of social movement actions as clearly demonstrated in the proceeding chapters.

Taken as a whole, this dissertation shows how publics mobilizing against sexual violence face many important epistemological decisions with their technologies, and social movement citizen-activists must decide to what degree they will acquiesce to hegemonic power structures.

¹² See, for example, Bevan, Alex, Caroline Wilson-Barnao, and R. A. Lincoln. “From Chastity Belts to Smart Frocks: The Promise of Rape Deterrent Technology,” in *AoIR2019: Annual Conference of the Association of Internet Researchers: Trust in the System*, 2019; Bivens and Hassinoff, “Rape: Is There an App for That?”; Elizabeth Ellcessor, “Blue-Light Emergency Phones on Campus: Media Infrastructures of Feeling,” *International Journal of Cultural Studies*, 22, no. 4 (2019): 299-518; Shelby, “Techno-Physical Feminism;” White and McMillan, “Innovating the Problem Away?” A Critical Study of Anti-Rape Technologies;

¹³ Hess, “Technology-and Product-Oriented Movements,” 516.

Beyond private-sector symbiosis, anti-violence goals are further mediated based on their complicity with what I call “criminal justice symbiosis”—in which the emphasis on formal justice leads to an articulation of anti-violence goals within the dominant knowledge cultures of police, prosecutors, and “get tough on crime” policymakers. Criminal justice symbiosis has serious consequences when anti-violence technologies are institutionalized and citizen-activists abdicate control over the often more progressive aims and uses of their epistemological objects. Rather than concede to criminal justice symbiosis, more meaningful efforts to design justice can be found in using the lens of intersectionality to encode critical value-hypotheses that can liberate anti-violence technologies to catalyze more inclusive ways of addressing sexual violence.

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